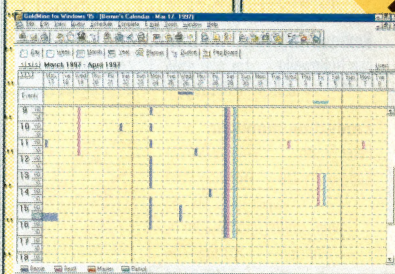
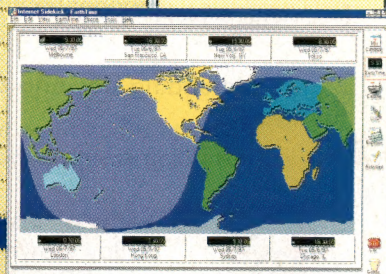


PC Update

June 1997

Recommended price \$3.95

**INFORMATION
MANAGEMENT**

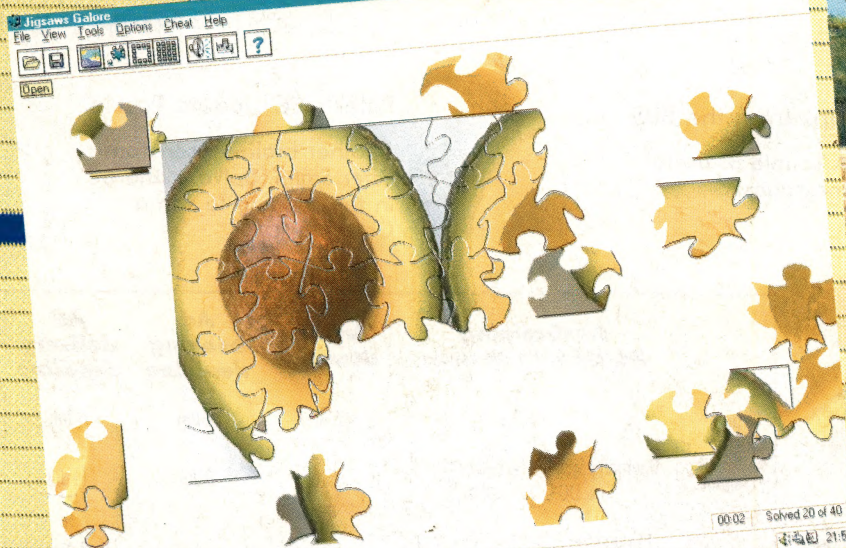
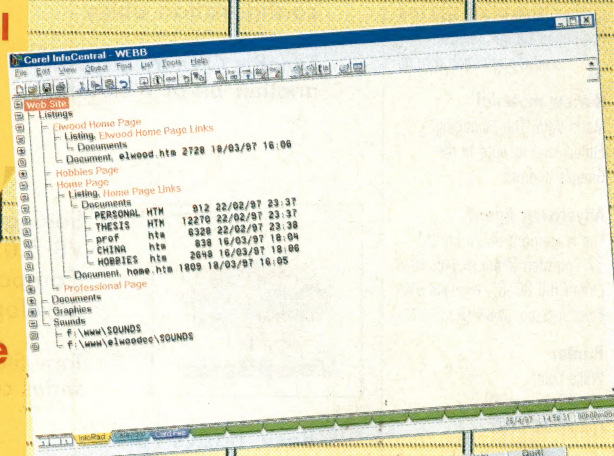


FEATURES InfoCentral:

A powerful but misunderstood tool
Solving problems with computers
Tips and tricks
Basic programming
Technology and Society

REVIEWS

The Cassandra Galleries
Crisis at the Animalia Research Centre
Which?
GoldMine
TQA
Starfish Sidekick 97



Lotus 1996
RUNNER UP
BEST FEATURES & REVIEWS
LARGE

Lotus 1996
RUNNER UP
BEST PUBLICATION
LARGE

MELBOURNE PC USER GROUP

ISSN 1031-8208
Print Post Approved
320258/0008
Circulation 13,500 copies



9 771031 820004

42

Editorial committee

Editor

Carol Daniels
editor@melbpc.org.au

Assistant editor

vacant
asst-editor@melbpc.org.au

Reviews editor

Ash Nallawalla Fax 9742 4566
ash@melbpc.org.au

Production manager

Peter Smith B/AH 9876 2871
Kedosa Pty Ltd Fax 9879 9035
Mobile 0418 344 553
peter.smith@pobox.com.au
Mail to PO Box 786
Ringwood VIC 3134

Production team leader

Joy Kartan contact via BBS

Film and cover production

Stephen Davey BH (03) 5223 2494
Pagination Design Services
smd@pagination.com.au

Review material

Mark "Attn: The Managing Editor" and forward to the Group's address.

Advertising Agent

The Fingerprint Group Pty Ltd
57 Ramsden Street Ph 9486 8066
Clifton Hill 3068 Fax 9486 6005
Peter Jackson Mobile 018 053 721

Printer

Wilke Color
37-49 Browns Rd
Clayton VIC 3168

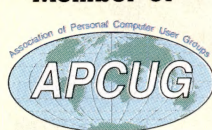
Distribution

Gordon & Gotch Limited

Publisher

Melbourne PC User Group Inc
66 Albert Road
South Melbourne VIC 3205

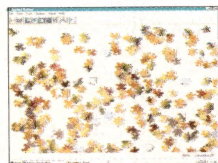
Member of



Features

10 InfoCentral: A powerful but misunderstood tool

Noel Craske discusses a powerful, free Information Manager/Datatabase/PIM

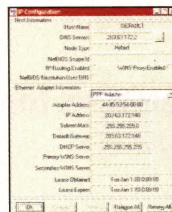


14 Solving problems with computers

Barbara Maple finds another way to have fun with her PC.

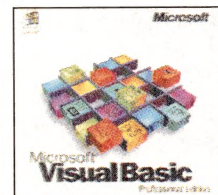
18 Win 96 TSP/IP configuration utility

Timothy O'Leary discovers another bit of Windows 95.



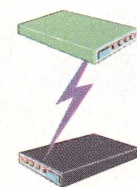
20 Seeing the Basics: VB 5.0: Component-driven development

Tony Stevenson's series continues.



22 Basic basics Part 4

More from John M Graham for new programmers..



25 Tips from the BBS

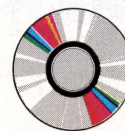
A couple of useful messages.

26 Are you looking SCSI lately?

Part 3 of a series by Fred Townsend, explaining SCSI.

37 Uploading dos and don'ts

Colin Lovitt has some time- and frustration-saving advice.



38 Verify or else: A Boy's own adventure with CD-ROM backups

Learn from Michael Marquart's tales of woe.

40 Technology and Society

Stephen Lake muses on the impact technology makes on our lives.

49 Tips and tricks

More useful information from George Skarbek.

50 Measuring Internet performance

Is your internet access slow, or does it just seem that way? Richard Solly tells how to measure performance and pinpoint the bottlenecks.

62 Peter's PC Update Puzzle

Another brain-teaser from Peter Smith. Solve it and be in the running to win a Corel CD-ROM.



Advertisers!

**FINGERPRINT
GROUP
PTY LTD**

Your message will be read by well over 20,000 business and home PC users. We have a wide range of sizes from business card to full page or spreads in monochrome, and full process colour.

Typesetting Available!
For bookings, rates and deadlines, contact Peter Jackson at:
The Fingerprint Group Pty Ltd
Ph: (03) 9486 8066
Fax: (03) 9486 6005
57 Ramsden Street
Clifton Hill VIC 3068



	Forthcoming PC Update themes	Articles deadline	Ad booking deadline	Ad delivery deadline	Magazine delivered by
July	SOHO	2 Jun	4 Jun	6 Jun	27 Jun
August	Operating Systems (Windows NT, 95, 3.x, DOS, OS/2, UNIX)	7 Jul	9 Jul	11 Jul	1 Aug
September	PCs and the Professions (Financial, Legal, Architecture, Medical, etc.)	4 Aug	6 Aug	8 Aug	29 Aug
October	Upgrading	1 Sep	3 Sep	5 Sep	26 Sep

Reviews

- 6 The Cassandra Galleries**
Bernadette Houghton plays a different type of puzzle game.

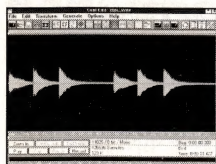


- 9 Life Science Mysteries: Crisis at the Animalia Research Center**

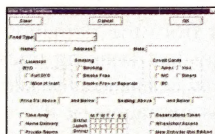
Another CD-ROM reviewed by Bernadette Houghton, but this one's primary objective is education.

- 12 Which?**

Bob Burt now knows where to stay, eat and relax, having investigated three Australian CD-ROMs.

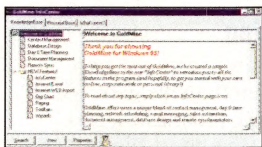


- 46 Cleaning up the sound of old records using DCart**
Douglas Lorimer has brought new life to old records with this sophisticated audio editing suite.



- 54 GoldMine for Windows 95 v3.2**

If your life depends on your contacts, Bernadette Houghton thinks this program is aptly named.



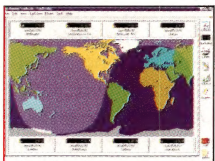
- 60 TQA**

If you're interested in ISO 9001 or ISO 9002, Bernadette Houghton says this will make certification simple.



- 60 Starfish Sidekick 97**

Bob Burt looks at the latest version of an old favourite. It's now Internet aware and has come a long way since its early XT days.



Club News

- Mailer**
Dial Help

- 4 Editorial** Carol Daniels

- 8 ixlaPhoto bulk buy**

- 16 CPU**
(Club President's Update)
Stan Johnstone

- 30 What does membership of Melb PC offer you?**

- 31 Membership and other forms**

- 33 Discounts for members**

- 34 Special interest group meetings**

- 35 SIG meeting reports**
Keith Beresford

- 42 Shareware/Freeware library update**
Glenn Webster

- 56 Members' free ads**

- 58 Training courses**

- 63 PC Update**
advertisers index

- 63 Monthly meeting details**

- 63 Acknowledgments**

Melb PC directory

Office, membership, deliveries

2nd Floor, 66 Albert Road
South Melbourne VIC 3205
(9 am - 5 pm)

9699 6222
Fax **9699 6499**

PO Box 283
South Melbourne VIC 3205
Australia

CEO

Vacant ceo@melbpc.org.au

Staff

Tricia Swan office@melbpc.org.au

First Aid (Help) line

(10 am - 3 pm) **9696 9200**

Management committee

committee@melbpc.org.au

President

Stan Johnstone 9578 3091 BH/Fax
president@melbpc.org.au

Vice-President

Morris Tobias 9428 4413 BH
vice-president@melbpc.org.au

Treasurer

Bruce Elliott 9882 4227 AH
treasurer@melbpc.org.au

Secretary

Bill Ford 9819 3388 AH
secretary@melbpc.org.au

Members

Yahya Abdal-Aziz yahya@melbpc.org.au

Jean D'Andrea jda@melbpc.org.au

Carol Daniels cad@melbpc.org.au

Allan Michelmore allanm@melbpc.org.au

John Morris morris@melbpc.org.au

Ash Nallawalla ash@melbpc.org.au

Gloria Simos gsmos@melbpc.org.au

Online Services

Melb PC BBS (34 lines)

9699 6644, 9699 6611

Internet Service

Up to 90 minutes/day

SLIP/PPP (96 lines) **9690 5999**

PAP (32 lines) **9686 4506**

Up to 30 minutes/day

16 lines **9690 5644**

Home Page

<http://www.melbpc.org.au>

Copyright notice.

Copyright © 1997, Melbourne PC User Group Inc and individual authors. Except where otherwise stated, all material is the copyright of the author. Material in this magazine may be copied by nonprofit PC user groups without fee provided that there is no restriction published with the article, the copies are not used for commercial advantage, and the origins of the material and this permission to copy are acknowledged in the reprinted item.

Liability disclaimer.

Material published in this magazine represents the opinions of the authors, and does not carry any endorsement by the committee or the editor. We do not test programs or tips that are published here, so use them at your own risk. Problems or follow-up queries should be sent to the original author. Melbourne PC User Group Inc. has no official connection with any public or commercial organisation and does not provide product recommendations. Names of commercial products mentioned in this magazine are registered names or trademarks of their owners.

Contributions.

All authors must lodge a completed submission form (included in the style guide) that confirms that the article is previously unpublished (if previously published, the author must have the right to authorise republishing), and original, save for any content which is properly credited, and that Melbourne PC User Group Incorporated may publish the article on one or more occasions on paper, the Internet or otherwise, edit the article and/or permit republication by non-profit organisations. These are PC Update's standard terms of publication.

Before starting a review or article, write to the editor, in case someone else has beaten you to it. Then download, read and follow the style guide STYLAUTH.ZIP from area PCU.351 of the BBS. Note, anonymous submissions are not accepted.

Authors must present a balanced view of the subject matter, based on a reasonable period of use—if the article is overly critical they should submit a copy to the distributor or manufacturer for comment. Copies of such correspondence should accompany the submission.

Submitting articles and reports.

Do not use the Internet for submissions without prior approval from the editor. Upload articles, reports and reviews to the BBS, as plain, unformatted (ASCII) text files or plain unformatted (ASCII) text files bundled in a zip file with accompanying graphics. Do not use long file names or upload self-extracting EXE files. Make sure you are in the PCUP file area, before you upload the file. Leave a message to All (not "Private") in the PC Update Discussion area. Submissions that conform to the above formatting requirements can also be sent by post, on a virus-free diskette, which will not be returned, to the Group's PO Box.

Editing. All articles are edited for style, spelling, grammar and length. Articles that may not be edited or that do not meet our standards, will be rejected.

Graphics. Supply graphics or screen shots, wherever possible, as colour, or black and white images, saved in one of the formats: PCX, BMP, TIF, WMF or EPS.

Rejections. Contact the editor if your submission is not published within four issues. Articles with long file names, self-extracting files or virus infections are rejected without notification. Other rejections are advised by phone or in writing.

WORKING WRITER'S WORDS

Carol Daniels



Information management

Why is it that as I write those words, I'm hearing a chorus of my fellow Melb PC members breaking into "To dream the impossible dream..." in four-part harmony? Maybe I'm projecting. I don't think so. Everywhere I turn these days, I find articles proclaiming the perils of the information age. Although, it may not be any consolation to find you are not alone. Whether you call it "information overload", "info glut", or "stop the modem, my hard drive is full!" you may find yourself feeling as if you're drowning in a sea of information.

In the twentieth century, we are faced with more new information than ever before. That's old news. What's got our attention now is the effect this tide of information has on us.

That's where the theme for this issue kicks in. Along with being exposed to previously unheard of amounts of information, coming at us more quickly than ever before, we now find that we are expected not only to know about, but to be able to put our fingers on, masses of information on a wide range of issues, all at a moment's notice. It's not good enough just to have it, there's an expectation that we will (somehow) manage it, process it, make sense of it.

The Internet hasn't made things easier. Despite being one of the archetypal images of the information age, much of what's available on the Internet is raw, unfiltered data rather than information. It takes work, digging and searching to find the useful, reliable information.

Of course we've always needed to analyse data and manage information. Knowledge has always been a hard won goal. But the task is more difficult, as the volume of information grows.

No one's immune

Information overload isn't just a concern for managers in multinational corporations or large bureaucracies. It strikes at every level of every organisation.

Even non-organisations, suffer from it. Home-based business operators aren't likely to have an assistant to keep track of meetings and project deadlines, let alone type correspondence or attend to

the delicate balance between paying accounts as they come due, while trying to entice debtors to pay as soon as possible.

Even families suffer from the demands of the information age. Just keeping track of a small family's social obligations would have stymied business managers at the turn of the century.

As an information junkie or "info-maniac" (a term I prefer, but has sometimes been misunderstood), I've been searching for the perfect information management system for as long as I can remember. I won't get your hopes up, only to crush them at the bottom of the page. I'll confess now. I haven't found it...yet.

Not for want of trying

Owners of office supply stores on two continents rub their hands with glee when they see me enter their establishments, chequebook in hand. I've tried file folders and tickler files (not nearly as much fun as they sound). I've used Day Runners™ and Filofaxes™. I've experimented with more database programs than I care to remember. In the end I always return to my own, "CG&G" (colour, geographical and geological) system.

In this soon-to-be-patented system (as soon as I find the forms) data access is linked to colour (of the paper), geography (what I was doing and where I was doing it when I discovered the item and "filed" it) and geology (how long ago I "filed" it). The files are vertical, so I'm positive that at the bottom of the files, the organic components of the paper and ink are decomposing, liberating carbon atoms—which, under the influence of the immense pressure that exists at the deepest levels—will soon be transformed into a stash of diamonds the likes of which have never before been seen.

Now that I have that off my chest, I feel much better, and you'll know better than to come to me for advice about managing information.

I haven't thrown in the towel, only focused my efforts on areas where I'm more likely to succeed, such as turning off the tap, or at least taking more control of the flow, of information coming into my life, by:

**much of what's
available is raw,
unfiltered data,
not information**

- **Filtering:** I used to read (and I mean read) three daily papers. Now I subscribe to news filtering services and skim the daily paper in the evening. I've cut back on the number of newsgroups I read too. There was a time when I subscribed to hundreds of groups. I've got it down to twenty or so, only half of which I read every day. Instead of newsgroups, I subscribe to moderated and controlled subscription mailing lists, where the signal to noise ratio is much better.
- **Automating:** I've automated the way I process some e-mail. Not all of it. When you regularly get more than 100 messages a day, there's no way to handle everything individually. One word of caution, be careful when you're setting your filters. Check that they do what you expect them to do. From personal experience I can tell you that it's embarrassing to berate your brother because he hasn't replied to a number of e-mail messages, only to discover his replies incorrectly sorted to a folder you only check once a quarter!
- **Scanning:** With the right size type on the screen, and well formatted documents, I scan scrolling text, only stopping to read when something grabs me. It's a great way to get through long documents, especially those that may only be related, tangentially, to your current needs.
- **Evaluating:** Taking filtering one step further, I'm ruthless about what I continue. For example I give a mailing list one month to make an impression on me. If it hasn't, I unsubscribe. Now, where did I file those notes for this month's editorial? I'm sure I kept them...they have to be here somewhere... Oh well, I'm out of space anyway. □

DELL

introduces a whole new *Dimension* in PCs




DIMENSION XPS M1665

- Intel 166MHz Pentium® Processor with MMX™ Technology
- 16MB SDRAM
- 512KB Single Bank Pipeline Burst Cache
- 2.1GB Hard Drive
- 15" Trinitron colour monitor
- Virge 2MB VRAM Video card
- Integrated Sound Blaster 16 sound
- MS Office 97 Small Business Edition
- MS Windows 95®
- MS Mouse
- 104 Key Windows 95® Keyboard

\$2929*

or \$101/month over 36 months

 The **Dimension**, designed especially for the home office and small business combines the latest in PC design with state-of-the-art technology. **SPEED** Featuring an Intel 166MHz Pentium® processor with MMX™ Technology, SDRAM memory and Pipeline Burst cache, the Dimension provides the best possible performance for your multi-media, business and communications programs. **VALUE** Deal direct and save. You talk straight to the people who design, manufacture and support your PC, which allows us to offer the latest in technology at the lowest prices. All Dell PCs are covered by a 30 day money-back guarantee and are delivered to your door usually within 10 working days. Dell also offer attractive finance options on all our PCs, making them even easier to buy. **PERFORMANCE** The Dimension is one of the most highly awarded PCs on the market, winning an amazing 91 international awards last year alone. To take one for a test drive and check out the amazing performance, call Dell now.

CREDIT CONDITIONS: Repayments are calculated on 14.9% annual percentage rate, over a period of 36 months. The repayment is to be used as a guide only as credit fees, charges and delivery are payable. Credit is provided by Capital Finance Australia Limited 069 663 136 and is subject to approval and execution of the loan contract. All applicants must be 18 years of age or more, in regular employment.

SALES TAX INCLUDED. DELIVERY NOT INCLUDED. PRICE VALID FOR CONFIGURATION SHOWN ONLY. PC PICTURED FOR ILLUSTRATIVE PURPOSES ONLY. WINDOWS 95 IS A REGISTERED TRADEMARK OF MICROSOFT CORPORATION. THE INTEL INSIDE LOGO AND PENTIUM ARE REGISTERED TRADEMARKS OF INTEL CORPORATION, AND MMX IS A TRADEMARK OF INTEL CORPORATION.

DEL8040



**BETTER
BUY A**

DELL™

1 800 810 284

8.00am-8.00pm Mon-Fri

www.dell.com/intl/apcc/

The Cassandra Galleries

SOFTWARE REVIEW

Bernadette Houghton



The Cassandra Galleries is an intriguing puzzle game from Corel, the likes of which I haven't encountered before. The main storyline revolves around the mysterious disappearance of William Cassandra and his daughter. Following

the disappearance, the Cassandra mansion is converted into an art gallery. It is your job to explore the rooms and galleries of the mansion and so solve the mystery of the Cassandras' disappearance. As you investigate the mansion, you'll meet various members of the family entourage who will give you clues to the mystery. You also solve an array of 49 different puzzles

Without giving away too much of the storyline, you begin by picking up sculptures from the studio and returning them to the galleries where they belong. There are seven galleries, each devoted to a different artistic period, including Ancient, Art Deco, Romantic and Modern. Once you have correctly relocated a sculpture, you are transported to a different world, in the same period style as the galleries; here you'll find an assortment of puzzles. Solve all the puzzles and you'll have another clue to the Cassandras' disappearance.

The Cassandra mansion is a surreal 3D world. You navigate by clicking the mouse in the direction you want to go. It's an awkward method of navigation, but you soon get used to it. I found the mansion quite spooky; perhaps it was the music. The graphics are quite good and include video sequences. As you explore the mansion, you'll encounter information that will help you solve the puzzles. The puzzles vary greatly, and

sure to

appeal to

puzzle-aholics

part of the puzzle is that you need to work out how to solve them in the first place. Puzzles include identifying sounds, matching pictures, and word games, among others; I don't want to spoil the game for you, so I won't be more specific. Some of the puzzles are quite challenging, but you can solve them by applying a little bit of logic and lateral thinking.

The Cassandra Galleries is a hefty program, shipping on 2 CDs. Because it runs from the CD drive, you'll need a drive of reasonable speed, say quad-speed as a minimum. I had no performance problems on my 486DX2-66, 32 MB RAM, Windows 95, oct-speed CD machine. Corel claims there's more than 40 hours of game play; I certainly believe that!

On the whole, an intriguing game with lots of atmosphere. It is sure to appeal to puzzle-aholics. □

Info Box

The Cassandra Galleries

Minimum system requirements

- 486DX2-66 (Corel recommends a Pentium P60 for Windows 95 users)
- 8 MB RAM
- Windows 3.1
- MS-DOS 5.0
- 256-colour display
- Sound Blaster or 100% compatible sound card
- Mouse
- Double-speed CD-ROM drive (I recommend at least a quad-speed)
- 26 MB free hard disk space.

Availability and cost

Available from most Corel retailers. Contact Corel Customer Service Centre on 1 800 658 850.
RRP US\$39



Figure 1. The Studio of the Cassandra Galleries.



Figure 2. One of the puzzles in the Cassandra Galleries.

NEW INTEL TX CHIPSET!!

Techni-Corp System Design Engineers are abreast of the latest developments to afford you the competitive edge you require in all your Computer Network Technology. INTEL® has introduced the TX Chipset which is designed to enhance the NEW MMX processors and supports the NEW mode 5 Hard Drives.. Coupled with the American Made Supermicro P5MMA motherboard the performance is outstanding. Supermicro is renown for manufacturing the fastest motherboards in their class in the world. For reliability and speed, look no further than the SUPERO range of motherboards which cater for Pentium Processors, MMX, Pentium PRO and IBM/Cyrix processors.

MULTIMEDIA SERIES



HEWLETT
PACKARD



PENTIUM 133MHz

NEW INTEL TRITON TX CHIPSET
SUPERO P5MMA MOTHERBOARD
MADE IN THE USA
512k PIPELINE BURST CACHE
32MB DIMM RAM 168 PIN
UPGRADABLE TO 256MB
SUPPORTS NEW MODE 5 HDD
3.2 GIG QUANTUM MODE 5 HDD
4MB DIAMOND STEALTH 3D
15" N/I L/R MONITOR
16X HITACHI CD-ROM
MIDI ATX TOWER CASE
SOUND BLASTER 32 AWE
300 WATT JAZZ SPEAKERS
33.6 V34 VOICE/ FAX /MODEM
HP 690C COLOUR PRINTER
HP 5P FLATBED SCANNER
1.44 FLOPPY DISK DRIVE
MS INTELLI MOUSE & MAT
WINDOWS 95
OFFICE PRO 97 U/G
HARVARD GRAPHICS
1 YEAR FREE INTERNET ACCESS*

PENTIUM 166MHz

NEW INTEL TRITON TX CHIPSET
SUPERO P5MMA MOTHERBOARD
MADE IN THE USA
512k PIPELINE BURST CACHE
32MB DIMM RAM 168 PIN
UPGRADABLE TO 256MB
SUPPORTS NEW MODE 5 HDD
3.2 GIG QUANTUM MODE 5 HDD
4MB DIAMOND STEALTH 3D
15" N/I L/R MONITOR
16X HITACHI CD-ROM
MIDI ATX TOWER CASE
SOUND BLASTER 32 AWE
300 WATT JAZZ SPEAKERS
33.6 V34 VOICE/ FAX /MODEM
HP 690C COLOUR PRINTER
HP 5P FLATBED SCANNER
1.44 FLOPPY DISK DRIVE
MS INTELLI MOUSE & MAT
WINDOWS 95
OFFICE PRO 97 U/G
HARVARD GRAPHICS
1 YEAR FREE INTERNET ACCESS*

PENTIUM 166MMX

NEW INTEL TRITON TX CHIPSET
SUPERO P5MMA MOTHERBOARD
MADE IN THE USA
512k PIPELINE BURST CACHE
32MB DIMM RAM 168 PIN
UPGRADABLE TO 256MB
SUPPORTS NEW MODE 5 HDD
3.2 GIG QUANTUM MODE 5 HDD
4MB DIAMOND STEALTH 3D
15" N/I L/R MONITOR
16X HITACHI CD-ROM
MIDI ATX TOWER CASE
SOUND BLASTER 32 AWE
300 WATT JAZZ SPEAKERS
33.6 V34 VOICE/ FAX /MODEM
HP 690C COLOUR PRINTER
HP 5P FLATBED SCANNER
1.44 FLOPPY DISK DRIVE
MS INTELLI MOUSE & MAT
WINDOWS 95
OFFICE PRO 97 U/G
HARVARD GRAPHICS
1 YEAR FREE INTERNET ACCESS*

PENTIUM 200MMX

NEW INTEL TRITON TX CHIPSET
SUPERO P5MMA MOTHERBOARD
MADE IN THE USA
512k PIPELINE BURST CACHE
32MB DIMM RAM 168 PIN
UPGRADABLE TO 256MB
SUPPORTS NEW MODE 5 HDD
3.2 GIG QUANTUM MODE 5 HDD
4MB DIAMOND STEALTH 3D
15" N/I L/R MONITOR
16X HITACHI CD-ROM
MIDI ATX TOWER CASE
SOUND BLASTER 32 AWE
300 WATT JAZZ SPEAKERS
33.6 V34 VOICE/ FAX /MODEM
HP 690C COLOUR PRINTER
HP 5P FLATBED SCANNER
1.44 FLOPPY DISK DRIVE
MS INTELLI MOUSE & MAT
WINDOWS 95
OFFICE PRO 97 U/G
HARVARD GRAPHICS
1 YEAR FREE INTERNET ACCESS*

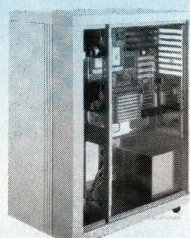
\$4300

\$4450

\$4650

\$4999

PROFESSIONAL SERIES



PENTIUM PRO 200 MHZ 256K CACHE
INTEL 440 FX NATOMA CHIPSET
64 MB DIMM RAM exp. 768
SUPERO P6 SNE MADE IN AMERICA
4 PCI & 4 ISA SLOTS
2 X BUS MASTERING
SYSTEM THERMAL CONTROL
17" SONY SF2 MONITOR
4MB DIAMOND STEALTH 3D
3.2 GIGABYTE QUANTUM HDD
16X HITACHI CD-ROM
SOUND BLASTER 32 AWE
MIDI TOWER CASE
1.44 FLOPPY DISK DRIVE
MS MOUSE & MAT
300 WATT JAZZ SPEAKERS
WINDOWS 95

PENTIUM PRO 200 MHZ 256K CACHE
INTEL 440 FX NATOMA CHIPSET
64 MB DIMM RAM exp. 768
SUPERO P6 SNE MADE IN AMERICA
4 PCI & 4 ISA SLOTS
2 X BUS MASTERING
SYSTEM THERMAL CONTROL
17" SONY SF2 MONITOR
4MB DIAMOND STEALTH 3D
4.3 SCSI U/W SEAGATE BARRACUDA
2940 ADAPTEC ULTRA WIDE
12X PIONEER SCSI CD-ROM
MIDI TOWER CASE
1.44 FLOPPY DISK DRIVE
MS MOUSE & MAT
WINDOWS NT4 WORKSTATION

2 X PENTIUM PRO 200 MHZ 256K CACHE
INTEL 440 FX NATOMA CHIPSET
64 MB DIMM RAM exp. 768
SUPERO P6 SNE MADE IN AMERICA
4 PCI & 4 ISA SLOTS
2 X BUS MASTERING
SYSTEM THERMAL CONTROL
17" SONY SF2 MONITOR
4MB DIAMOND STEALTH 3D
4.3 SCSI U/W SEAGATE BARRACUDA
2940 ADAPTEC ULTRA WIDE
12X PIONEER SCSI CD-ROM
SERVER CASE
1.44 FLOPPY DISK DRIVE
MS MOUSE & MAT
WINDOWS NT4 WORKSTATION

\$4900

\$8400

\$12400

THE NEW....PRO 200 MHZ 512K CACHE & QUAD PENTIUM PRO'S ARE NOW AVAILABLE!!

NOTEBOOKS NEC TOSHIBA DUAL EVEREX TEXAS INSTRUMENTS



DUAL
PENTIUM 150
32MB RAM
1.4 GIG HDD
10.4 TFT ACTIVE
8X CD-ROM
SOUND CARD
2MB VGA MPEG
CARRY CASE
ADAPTER
NI-MH BATTERY
\$3850

TOSHIBA
SATELITE 430 CDS
PENTIUM 120
16MB RAM
1.2 G HDD
11.3 DSTN
10X CD-ROM
WIN 95
\$3330

VERSA 2400
PENTIUM 100
MHZ
8MB RAM
810MB HDD
11.3 DSTN
\$2785

VERSA 2430
PENTIUM 133
16 MB RAM
1 G HDD
11.3 DSTN
6X CD-ROM
\$3490

EVEREX
PENTIUM 133+
24 MB EDO RAM
1.1G HDD
11.3 TFT ACTIVE
10X CD-ROM
SOUND CARD
2MB VGA MPEG
WIN 95
\$3395

VERSA 2400CD
PENTIUM 100
8MB RAM
810 MB HDD
11.3 DSTN
6X CD-ROM
\$3050

VERSA 6030X
PENTIUM 133
16MB RAM
1.4 G HDD
12.1 TFT
28.8K V34 FAX/MODEM
\$6100

TOSHIBA
SATELITE 430 CDT
PENTIUM 120
16MB RAM
1.2 G HDD
11.3 TFT ACTIVE
10X CD-ROM
SOUND CARD
2MB VGA MPEG
WIN 95
\$4920

TEXAS INSTRUMENTS
EXTENSA 600 CD
PENTIUM 120
16MB RAM
810MB HDD
12.1 DSTN
6X CD-ROM
WIN 95
\$2900

TEXAS INSTRUMENTS
EXTENSA 570 CDT
PENTIUM 100
16MB RAM
1.2 GIG HDD
10.4 TFT
6X CD-ROM
WIN 95
\$3025

HEWLETT PACKARD

HP 400 c/w color \$260
HP 690C \$360
HP 820Cxi \$575
HP 870Cxi \$720
HP 5L LASER \$630
HP LASER 6P \$1050
HP 6MP \$1330
HP 5Si \$5285
HP 5SiMX \$7550

CANNON

CANNON BJ-30 \$250
CANNON BJC-70 \$335
CANNON BJC-210 \$280
CANNON BJC 4200 \$385
CANNON BJC 4550 \$660
CANNON BJC-620 \$595

EPSON

STYLUS COLOR 200 \$270
STYLUS COLOR 400 \$390
STYLUS 600 \$470
STYLUS 800 \$695
STYLUS 1000 A3 \$1350
STYLUS 1500 A3 \$1350
STYLUS 1520 A3 \$1675
STYLUS PRO XL+ \$2425

ACCESSORIES

IOMEGA ZIP DRIVE \$280
IOMEGA JAZZ DRIVE \$725
YAMAHA CDR 4X4 \$1450
PANASONIC CDR \$699
CDR GOLD \$10
ZIP DISKS \$23
33.6 V34 EXT VOICE \$199
33.6 BANKSIA WAVE \$350

KODAK CAMERAS

KODAK DC20 CAMERA \$360
KODAK DC25 CAMERA \$680
KODAK DC50 CAMERA \$1100

MONITORS

15" SONY SF2 \$650
17" SONY SF2 \$1390
15" VIEWSONIC GS \$540
15" NEC C500 \$499
17" NEC XV17+ \$1455

SCANNERS

HP 4P \$720
HP 5P 1200 Dpi \$575
HP 4C \$1240
ARTEC 4800 Dpi \$430

TECHNI-CORP
SYSTEMS

"WHERE THE WORLDS BEST COMPONENTS COME TOGETHER"

215 Waverley Road, East Malvern, Victoria, 3145. Telephone : (03) 9572 4999. Facsimile : (03) 9563 5690

Email : technicorp@alphalink.com.au



ixlaPhoto v1.1

A MELB PC BULK DEAL

Allan Michelnore

This powerful presentation tool is for those interested in producing their own photos and publishing them in various formats. IxlaPhoto enables you to take digital photos and create a digital photo album on a PC. Once your album is created, it can be sent on diskette to family albums, printed out for those that do not have a PC or used within web pages on the Internet. Photographic files, albums, development and reprinting costs are a thing of the past with ixlaPhoto.

The package is useful in such day-to-day work as

- Internet Web pages (for designing graphics or logos)
- Slide Shows
- Desktop publishing
- Product catalogs
- Newsletters

you can crop unwanted parts, adjust brightness or contrast, and rotate or flip photos. There are a number of professionally designed templates provided with the package and hundreds of drag-and-drop frames, tiled backgrounds, and clipart.

Some other key features are:

- Integrated image handling including transparency recognition, cropping and auto grouping
- Advanced HTML generation for

WYSIWYG Web page generation.

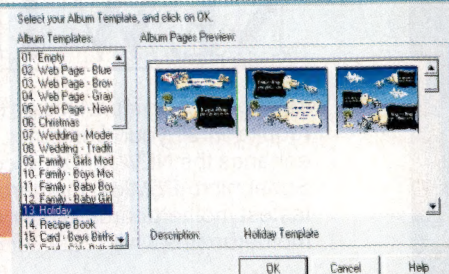
- Enhancement tools including hyper-linking, page effects, audio recording and playback, drawing tools and more.
- Quickassist technology including Digital Camera Assistant, Text Assistant and TWIN Assistant.
- Full online manual
- Support for most digital cameras
- Supports for most graphic file formats
- Internet browser support

Using ixlaPhoto

I found ixlaPhoto user-friendly. I had to make some Web pages for a customer who wanted a Web presence for his company. He was ecstatic with the finished product. This got his imagination going, and I had another order for a whole new section of Web pages in the following days. I completed most of the design with the aid of ixlaPhoto. The main desktop working area was kept clear unlike other graphic software packages that put tool bars all over the work area.

Both the online and 188-page printed manual are well written, explaining each feature in comprehensive detail. Within minutes, you can easily finish your project.

ISR's home page is at <http://www.isr.com.au>. They have a Web page competition that you might be interested in entering.



Overall impression

This product is for anyone who needs quick, easy and feature-packed software to do graphic editing work. It is well worth the \$129 RRP, but as a bulk-buy deal you will be able to purchase a copy for only \$88. But there's more—a bonus CD-ROM. Just released, ixlaArtist lite software is included with this special offer. IxlaArtist—your very own Art Studio. □

Info Box

IxlaPhoto

Minimum system requirements

- 486
- Windows 3.1 / 95 / NT 3.51
- 8 MB RAM (16 MB for NT)
- 10 MB hard disk space
- 256-colour display adaptor
- CD-ROM drive
- Mouse

A product of ISR Group Limited
303 Burwood Highway
Burwood VIC 3151
Tel: (03) 9803 1600
Fax: (03) 9803 1695
E-mail: isr@isr.com.au
Web: <http://www.isr.com.au>

Melb PC/ixlaPhoto Offer — closes 27 June

Name	Membership No.	Mail this form or a copy, with your payment to:
Telephone Numbers: (BH)	(AH)	BULK IXLAPHOTO OFFER Melbourne PC User Group PO Box 283 South Melbourne VIC 3205
..... ixlaPhoto packages, including bonus CD-ROM @\$88 each. Courier delivery is included (or you may collect — see below)		TOTAL \$
I will collect my software when available. Please notify me I would like my order delivered to the address below (PLEASE PRINT NEATLY)		<input type="checkbox"/> Select one box <input type="checkbox"/> Cheque payable to: Melbourne PC User Group Inc. or <input type="checkbox"/> Credit Card Payment. Bankcard, MasterCard or Visa.
Post Code		Signature
Credit Card Number:	Card Expiry Date	Date/...../ 19....
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> <div style="border: 1px solid black; width: 100px; height: 20px;"></div> </div>		

Life Science Mysteries: Crisis at the Animalia Research Center

CD-ROM REVIEW

Bernadette Houghton



Life Science Mysteries: Crisis at the Animalia Research Center is a fun way to learn about the animal kingdom and develop research skills.

Aimed at ages nine to sixteen, Animalia revolves around two independent crises at the research centre.

The first problem—*Computer Breakdown*—requires you to figure out the secret password that will restore the centre's entire computer system. You do this by visiting various rooms of the centre, browsing the audio-visual material and then answering questions on the locomotion, skeletal structure and phyla of different animals. If you need more information, there is an online hyper-linked textbook called the *Learn Zone*, with six lessons:

- Science and Technology: Observations and Inferences
- The Scientific Method

- Characteristics of Animals
- Survey of the Invertebrate Phyla
- Characteristics of Vertebrates
- Survey of the Vertebrate Classes

Quizzes, music clips and games at the end of each lesson help to reinforce the material. You can print any of the lessons, and there is a glossary of 215 related words and terms.

In the second problem—*Danger and Defense in the Wild*—you must finish some uncompleted exhibits. This task involves researching defence mechanisms, such as spraying and stinging, mimicry and camouflage, and deciding on the appropriate materials for each of the display themes. Again, you do the research by visiting various rooms and checking out the audio-visual materials.

Both problems require you to stay in touch with the Research Center's staff via

e-mail, an intercom, the telephone and a video conference system. Hints are available at any time by clicking the intercom.

The two problems are "one-offs," although you can repeat them as often as you like. Once you've solved the problems, you can continue to explore the rooms and the Learn Zone. In *Computer Breakdown*, it is possible to restore the computer without getting all the questions correct, but no official congratulations from the centre are forthcoming in that case. The information on the CD would barely fill up a thin textbook, but the real value lies in the fun medium and the continual reinforcement of the material.

Crisis at the Animalia Research Center makes good use of multimedia, and will be a terrific resource for schools and libraries.

Info Box

Life Science Mysteries: Crisis at the Animalia Research Center

Minimum system requirements

- 486DX-33
- 8 MB RAM
- Windows 3.1
- 256-colour display
- Sound Blaster or 100%-compatible sound card
- Mouse
- Double-speed CD-ROM drive
- 4 MB free hard disk space

Availability and cost

Available from most Corel retailers. Contact Corel Customer Service Centre on 1800 658 850.

RRP \$89

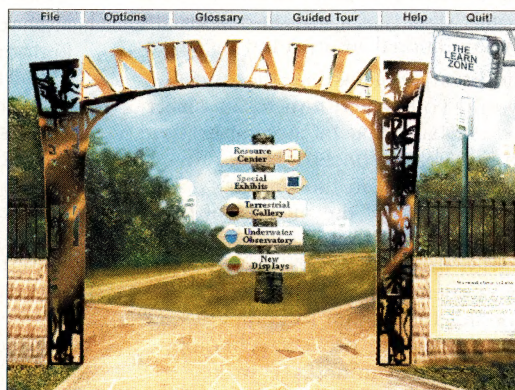


Figure 1. Animalia main screen.

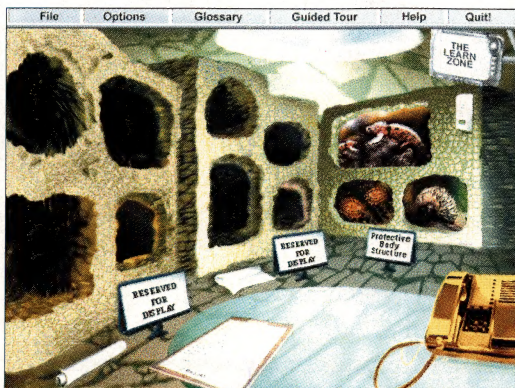


Figure 3. The exhibits room.

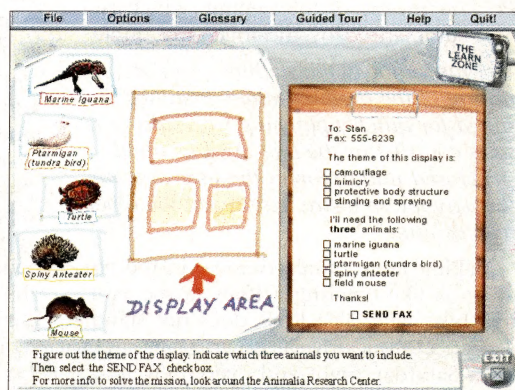


Figure 2. "Danger and Defense in the Wild": setting up exhibits.

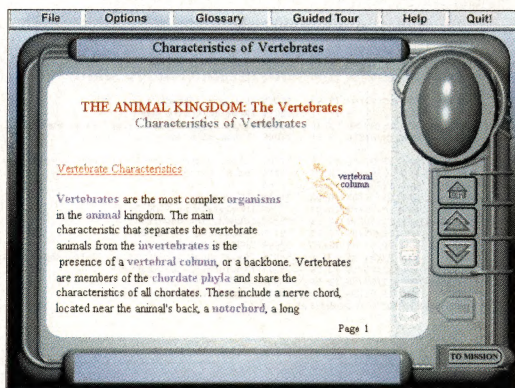


Figure 4. The Learn Zone.

InfoCentral a powerful, but misunderstood tool

A USER'S VIEW

Noel Craske

I seldom get inspired to write articles like this, but it amazes me that both Corel, and the previous owners of InfoCentral, Novell, appear to have completely failed to appreciate what they (could) have.

InfoCentral is basically marketed as an Information Manager/Database/PIM where it competes with other products that not only already have the market share and positioning, but present the user with a more suitable interface for the tasks. To switch from one of the market leaders to InfoCentral would require relearning skills to be able to do what competitive products already do in a more natural way. Consequently reviews of this product always have it trailing the field. For example, May 97, *PC User* magazine, describes it as "one of the most peculiar information managers ever released." For classic information tasks I would have to agree with the *PC User* review of InfoCentral, which is best summarised by the following quote:

"Unfortunately the slightly tortured nature of the product makes it rather ill suited for quickly plugging in results of a sales contract or the like. And its highly structured nature forces the user to work the way the software wants, not the other way around."

Making InfoCentral compete in the PIM arena is like entering a Rolls Royce in a trail bike race. The Rolls does not stand a chance—but drive it down main street on a Saturday night and everybody is your friend.

Background

The products that dominate the PIM and Database market share are based around either the relational database model or rigid tailored file structures for "well defined" tasks. Hence to reveal the capabilities of InfoCentral we must identify those application areas which the relational model and rigid file structures address poorly, if at all. In fact, relationships are the one thing that relational database management systems (DBMS) handle worst of all. Relationships in an RDBMS are value based, requiring a "join" process to reconstruct the relevant information from the DBMS tables.

When the relationships are recursive, there are many tables involved, or the data is not atomic (simple strings, dates, or numbers) the RDBMS has problems. Hence any area involving complex, possibly recursive, relationships between non-atomic data types will be outside the scope of traditional information managers.

To address problems like these in the DBMS world you would turn to an object-oriented database, and InfoCentral is based around the object concept. Hence to present InfoCentral in the proper perspective, and get the most from the product, you would be better served looking for those application areas where the object-oriented approach shines, rather than forcing InfoCentral to compete against the existing, proven technology on its own home ground. To make matters worse almost all the examples

that come with the product fall into this category. Although InfoCentral is not an object-oriented database, it is an object-oriented application, with a style of interface that is suited to specific types of applications, three of which I will discuss from personal experience,

- Complex document management
- Web Site Management—including versioning where previous consistent versions of the site must be kept and
- Data Mining—generating visual pointers etc. by importing a relational DBMS.

The object model and InfoCentral

In the Object-oriented world we speak of

- Classes, the template for holding data about a given thing e.g. Person,
 - Instances, which are completed data templates for a specific thing e.g. Fred
 - Methods, the operations which may be performed on the data in a specific template e.g. add 10% to Fred's salary.
- InfoCentral refers to Classes as Categories, Instances as Objects and all methods are predefined and disguised behind already learned mouse skills. The object-oriented expert should note that whilst new categories may be created, inheritance is not used in this product, you simply create named instances from defined categories. I suspect this is to enable the query language to easily comprehend the structure of categories and hence to be able to look inside objects when locating

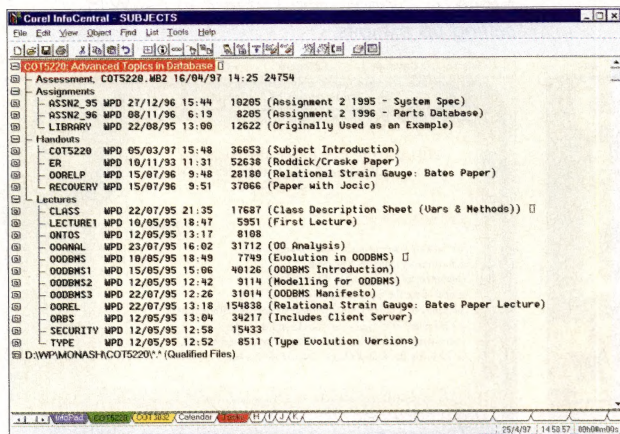


Figure 1. Course Management.

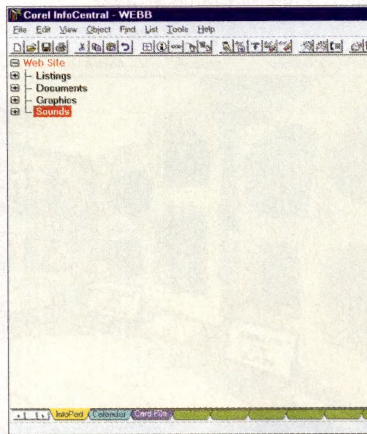


Figure 2. Collapsed view of Web site.

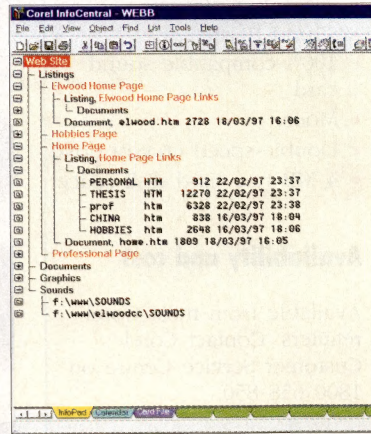


Figure 3. Expanded view of Web site.

answers.

Now the really subtle thing to appreciate here is that in the Object-oriented world all joins are handled by pointers. There are essentially two type of joins

- Inherited: "engineer" is a subclass of "employee"

and

- Foreign Key: "employees" belong to a "department"

Foreign Key joins form what the object-oriented model refers to as the "aggregation hierarchy" and it can directly implement "many-to-many" relationships expressed by the hierarchy.

InfoCentral copes with both types of joins using the same approach, namely by defining *Objects*, based on *Categories* suitable for describing, say *Engineer*, *Employee* and *Department*. Furthermore this process neatly covers the more complex situation of recursive joins. For example a relational table of parts built from other parts in the same table. Finding all components of a given complex part is non trivial for a relational system. The links can be created simply by drag and drop and expanded with mouse clicks.

Complex document management

Imagine you work in an environment where it is necessary for you to deal with diverse information from various sources. Furthermore at sometime in the future you might need to identify all relevant material associated with a specific topic. The problem is that the request from one source might be "fax and date" from another "country and project" from still another "that interesting photo from the last company news letter." In essence there is a need to relate all material concerning a given topic in a manner that makes it all quickly and easily accessible from any starting point. Note that this in no way restricts such material from being shared between different topics as it is all managed by pointers. This feature alone recently sold it to a CEO with exactly this problem.

As a lecturer at Monash, I need to keep track of all courses and various materials associated with each course. The task becomes more and more difficult as the volume grows. I've set up InfoCentral to know all the details about all subjects in terms of the files associated with them. This includes spreadsheets for assessment, handouts, lecture notes etc. Figure 1 shows a snap from my InfoCentral subject system. By associating a tab with a specific subject I get a view of the material specific to that subject. Clicking on an entry either expands it to reveal links associated with it or invokes an application associated with the document.

Relationships are bi-directional, that means I can see all material divided up into subjects, or all subjects divided into material links as per Figure 1.

Web site management

I manage two web sites. One of the problems in managing web sites is keeping an up to date map of the site—including links between pages, to graphics and sound files, and to external sites—in a readily accessible format, that gives a visual representation of the relationships, and is testable. InfoCentral works okay, for a small site, but with a little help from the vendor it could do even better.

Figure 2 shows a collapsed overview of the web sites. Clicking on an item expands it to reveal connections. Figure 3 shows some of these links expanded. Note that links to files can be grouped either by directory or to specific files regardless of their location. This means that by following links I can see the exact connections between pages, shared graphics (e.g. backgrounds) and off site connections (InfoCentral provides a Category "Internet Link"). I can identify which pages are associated with which site and even identify cross links between the sites.

Now comes the kicker, Corel WordPerfect Suite 7 is Internet enabled. All the products can publish to HTML, yet I had to build this InfoCentral net application from scratch! Would it not make sense (and money for the vendor) to encourage me to part with my hard earned Web Master dollars to be able to generate this InfoCentral application from pages published from the suite. This is more than just an idle wish, its a guaranteed seller! With complex legal battles raging around Internet publications, a responsible company needs to be able to reproduce a consistent set of pages representing the version of their site that was on the Web at a given time. Using my InfoCentral application, copies of pages and accessing the relationships based on date, I can retrieve the state of the site at any point in time. Note that because the relationship link is date based, I am not duplicating the site, only those elements (Objects) in it that have changed. (To make this even more useful and market InfoCentral for HTML independently the generator really only requires a set of HTML pages as input.)

Data mining

Data mining is essentially the discovery of information within a database. The average user—without sophisticated tools—does data mining by asking inspired SQL queries. Unfortunately to ask an inspired SQL query one needs to be inspired, as well as have the ability to compose a possibly complex query.

InfoCentral has the ability to import relational DBMS tables in various textual formats. The user defines the relationships between the table fields prior to the import process. Once the tables have been imported InfoCentral assigns Objects

to each data type and groups them by user defined Category. In other words all the joins are now visually displayed, so exploring the DBMS is now point and click—no more inspiration or SQL required! These visual relationships, which now expand before your eyes, reveal the true structure of the data, volumes are related to the number of links from an entry, and the fact that you can see the entry and the links could inspire you to click further along that path.

I am not suggesting for one moment that everyone should convert their applications to InfoCentral, only that by using it in this way you may obtain more information from your data. If your existing application already serves you well, converting to InfoCentral may not be worth the trouble.

If Corel were to make certain enhancements (such as those suggested in this article) to the product, then target its marketing efforts in those specific application areas for which there appears to be no serious competition, Corel could have a real winner on their hands. Even the recent release of Office 97 does not accommodate the sophisticated document organisation, association and retrieval available through InfoCentral.

Advice to the new user

If you decide that InfoCentral is suitable for your application, it will probably take you a few attempts at prototyping your system before you are happy with the form it takes. Coming to grips with thinking in terms of Categories (Classes) and Objects (Instances) is not easy for newcomers. The simplest approach is to enter *Instances* for *Categories* before concerning myself with the links. Once the *Object* is on the screen I can drag it to every other *Object* I want it connected to. Initially this is far simpler than using the "create and connect facility," which, while faster, requires you to keep track of what has been done. The simple drag and drop approach enables you to visualise the link creation at each step.

Where do you get InfoCentral?

Well undoubtedly owing to its outstanding success (sic) Corel is giving it away! The latest Windows 95 release of InfoCentral may be downloaded from the Corel web site <http://www.corel.com/> Follow the "Freebies" link. The documentation is available from the site (follow the *Corel Product Manuals for Download* link) as INFOCENTRAL7.ZIP. The ZIP file contains the document in Envoy format, so to read it you will also need to download the Envoy viewer (if you don't already have it). □

Noel Craske is a lecturer at Monash University, Caulfield Campus, specialising in object-oriented database and anti-viral research, visit his web site at <http://www.ct.monash.edu.au/~ncraske>

CONSUMER SOFTWARE REVIEWS



Bob Burt

This rather enigmatic title represents the registered trademark of Data Diction Pty Ltd, an Australian company that has launched a series of economically priced guides on various topics on disk for use on the home computer.

Aimed at the tourist or leisure and pleasure seeker, the current databases include

- National Restaurant Guide
- National Accommodation Guide
- Pastorelli's Sydney Leisure Guide

The packaging is carefully designed. Each of the guides is presented on a

card roughly the size of this *PC Update* page, amply illustrated to attract the potential customer and holding one 3.5-inch disk in a bubble plastic section. The reverse side of the card holds information for the purchaser, including registration form, instructions on how to use the software and user licence details. Most of you will already have seen similarly-presented software for sale through newsagents.

Each software item can be run straight from the disk without any installation and I found this perfectly satisfactory for my review purposes. However, if you

are a constant or frequent user, you can install the guide to your hard disk for much faster access. In either case, you should make a backup copy of the original disk.

All three guides have a similar operation and appearance. Essentially, there are three main areas containing information

- The map selection and display area
- The database display and scrolling area
- A large section showing either opening screen information on startup or details of a selected database item after such a selection has been made



Figure 1. Restaurant Guide opening screen.

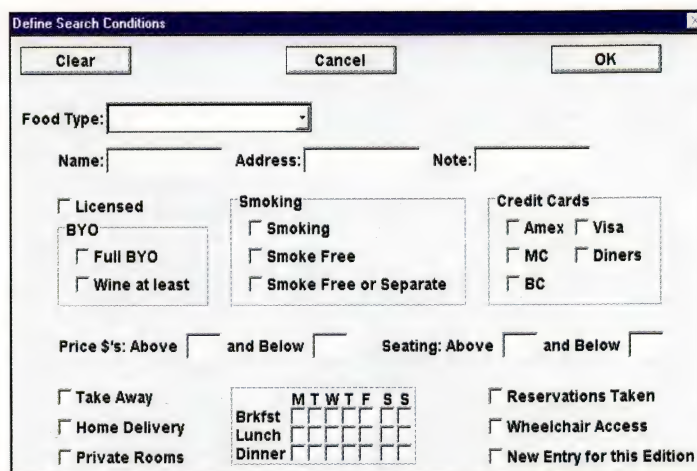


Figure 2. Search options for the Restaurant Guide.

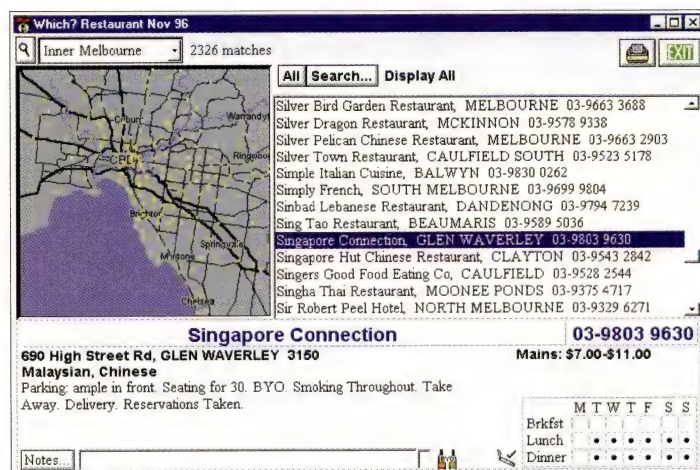


Figure 3. Display of selected restaurant details.



Figure 4. Making a choice from the Sydney Leisure Guide.

First, you select a suitable map, using the drop-down list immediately above the map image. While lingering in the map area, the mouse pointer contains a magnifying glass image, a double click calls up a map showing finer detail. When you are already using a fine-detail map, clicking on the magnifying glass button above the map area brings you out to a coarser map.

The database display changes each time you change the map, reflecting the items available in the particular region you have chosen. If you then click on the *Search* button, you bring up a dialog box in which you enter the specifications you wish to set for the search. On completion, the database display will change accordingly. You then make your individual selection from this area, to provide the details in the larger section in the bottom third of the screen.

There are provisions for making your own notes and you can print all selections (including their features).

National Restaurant Guide

This guide provides a database of more than 13,000 restaurants throughout Australia. Each entry contains the name, address and phone number(s) of the particular restaurant, style of food (cuisine), availability of parking, total seating, whether licensed or BYO, whether smoking is permitted or not, wheelchair access when available, which credit cards are accepted, and the price range for meals. A chart displays breakfast, lunch and dinner segments for a week, marking those for which meals are available.

National Accommodation Guide

More than 6,000 accommodation establishments throughout Australia appear in this guide. Each entry contains the name, address and phone and fax number(s) of the accommodation, its style (eg. DeLuxe—Resort, Motel), facilities such as 24-hour access, room service, child minding, restaurant, bar, convention rooms, business centre, laundry, currency exchange, indoor pool, gymnasium, tour desk, wheelchair access, air conditioning, colour TV, STD phone, refrigerator, spa, tea/coffee, hair dryer, videos and clock radio (phew!).

Prices or, at least, price ranges are included for one person and two persons, for children and for suites. There is often a note that prices will vary seasonally, however, so you must check again

if you actually make a booking. The listings include information about which credit cards are accepted.

Pastorelli's Leisure Guide to Sydney

Here we have more than 750 detailed listings of places of interest to visit in the Sydney area. These are grouped into 40 categories, including Bushwalking, Cinemas, Picnic Areas, National Parks, Beaches, Architecture, Scenic Areas, Markets, Galleries, Historic Sites, Bicycling and Museums. These certainly cover a wide range of interests.

The information provided includes description, opening times, fees, wheel- chair accessibility, tours, wet-weather suitability and public transport options.

Conclusion

This is a well-presented and useful series of disks. As each disk is labelled with the month and year of production, it would probably be worth shopping around a little to make sure you have identified the latest available editions before you make your purchase.

Info Box

Which?

- National Restaurant Guide
- National Accommodation Guide
- Pastorelli's Sydney Leisure Guide

Minimum system requirements

- IBM-compatible PC
- Windows 3.1+ or Windows 95
- Windows-compatible mouse
- 386SX 16
- 4 MB RAM
- 3.5-inch drive
- VGA or SVGA colour or grey-scale monitor

Availability and cost

Developed and published by
Data Diction Pty Ltd
PO Box 964

Crows Nest NSW 2065

Ph: (02) 9955 0121

Fax: (02) 9955 8845

Available at most newsagents,
Dick Smith stores, Harvey
Norman computer departments,
some bookshops or direct from
Data Diction

RRP: \$14.95 ea

**SUPER HIGHWAYS
DEMAND
SUPER PROTECTION**

**VET anti-viral software -
fast, powerful, effective.
Easy to install, easy to
use. Updated FREE for
a whole year. Call the
programmers direct, on
FREECALL 1300 364 750.**

VET
it first

INKJET REFILLS SAVE BIG \$\$\$

• UP TO 80% OFF ORIGINAL CARTRIDGE COST!
• Easy to use, re-usable refill kit • Highest quality U.S. ink. • Performs like the original! • Complete with ink, accessories & instructions. • Environmentally friendly.

Description To Suit:	Cartridge Number	No. of Refills	Kit Price
HEWLETT PACKARD			
HP 500 / Portable / DW300 - Black	51608/33A	4	\$35
HP 400/500 Series High Cap. - Blk.	51626A/33M	4	\$45
HP 400/500 Series - Tricolour	51625A	4 of ea. Col.	\$45
HP 600/660/690C - Black	51629A	4	\$45
HP 600/660/690C - Tricolour	51649A	4 of ea. Col.	\$45
HP 820/850/870/1600c - Black	51645A	3	\$45
HP 820/850/870 - Tricolour	51641A	2 of ea. Col.	\$45
HP 1200/650 (C,M,Y,B)	51640/50	3	\$45
HP Paintjet - Black	51606A	6	\$35
HP Paintjet - Tricolour	51606C	4 of ea. Col.	\$45
HP Think/Quick Jet/Diconix - Blk.	51604A	12	\$35
CANON			
* Canon BJ10/Starwriter - Black	BC01	5	\$35
* Canon BJ200/230/BJC210 - Black	BC02	5	\$35
* Canon BJC210 - Tricolour	BC05	4 of ea. Col.	\$45
* Canon BJC600/610/620 - Black	BJ1201	6	\$35
* Canon BJC600/610/620 - Tricolour	BJ1201	2.5 of ea. Col.	\$45
* Canon BJC300/330 - Black	BJ1642	3	\$35
* Canon BJC4000/4100/4200/4550-Blk.	BC120/BC121BK	4/30	\$45
* Canon BJC4000/4100/4200/4550-Tricolour	BC1210C	10 of ea. Col.	\$45
* Canon BJ30/BJC70 - Black	BC110BK	12	\$35
* Canon BJC70 - Black	BC111BK	30	\$35
* Canon BJC70 - Tricolour	BC111C	20 of ea. Col.	\$45
Canon BJC800/820 (C,M,Y,B)	BJ1643	4	\$45
* Compatible with either Apple Stylewriter, IBM, Brother or Star.			
EPSON			
Epson Stylus 400/800/1000 - Black	S020025/39	4	\$35
Epson Stylus Col./Pro/XL - Black	S020034	3	\$35
Epson Stylus Col./Pro/XL - Tricolour	S020036	2 of ea. Col.	\$45
Epson Stylus Col./II/IIIs/820-200-Blk.	S020047	6	\$35
Epson Stylus Col./II/IIIs/820-Tricolour	S020049	4 of ea. Col.	\$45
Epson Stylus 1500 - Black	S020062	2	\$35
Epson Stylus 500 - Black	S020093	6	\$35
Epson Stylus 200/500 - Tricolour	S020097	4 of ea. Col.	\$45
LEXMARK/IBM			
Lexmark/IBM 4076 /1020 - Black	1380620	3	\$45
Lexmark/IBM 4076 /1020 - Tricolour	1380619	2 of ea. Col.	\$45
C-ITOH/XEROX			
C-itoth CJ300/Xerox 4004 - Black	CJ300/8R7638	3	\$45

PLEASE CALL FOR OTHERS NOT LISTED!

Office **OfficeNET Computer Supplies**
20 Briggs St, Caulfield Sth, Vic. 3162
Ph. (03) 9532 9070 Fax. (03) 9532 7470
Hours: 9-5 Mon. to Fri., 9-12 Sat. All cards, cheque or cash. Mail Order (Pls. add \$3.95 P & H)

Solving problems with computers

FUN AND GAMES

Barbara Maple

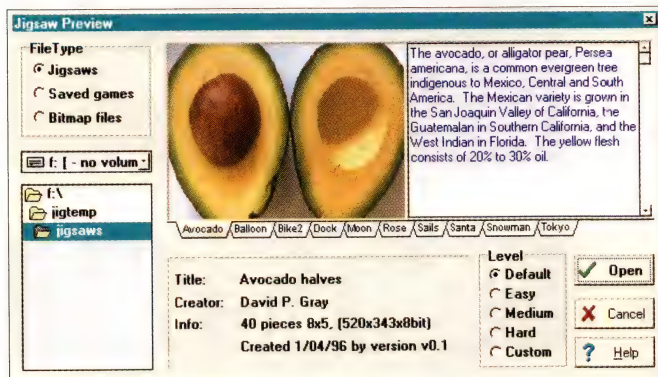


Figure 1. Pick your puzzle, and degree of difficulty.

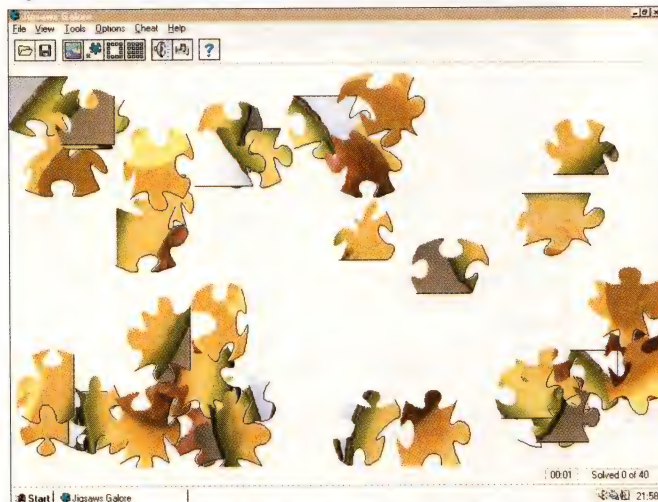


Figure 2. Starting the avocado puzzle (default level of difficulty).

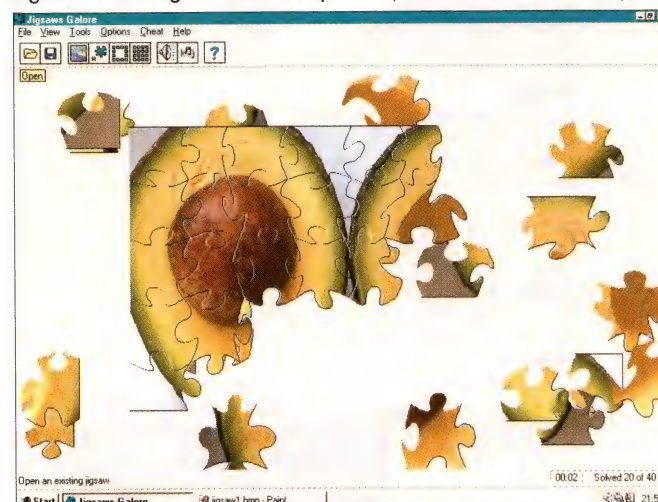


Figure 3. The avocado puzzle, in progress.

Computers can and are used to solve a multitude of problems. If you have a computer with a CD-ROM, you can take advantage of atlases, encyclopedias and all sorts of reference books on CD-ROM.

But it's not all work, you can have fun too, even when you're using your computer to solve problems. That's what I did recently when I used my computer, the Melb PC BBS and the Internet to discover a new way to do something. The new way saved me a lot of the hassle I had been having with the traditional way, something the animals in our household are probably not as happy about as I am. You see I love to do jigsaw puzzles, but to do them entailed finding a secure hiding place that one of the cats, or the dog, or any of the other

I used the BBS and Internet to solve my problem

non-human inhabitants of the Maple household, could disturb.

I had completed a lovely jigsaw puzzle of the front view of a brushtail possum. (One of my other animal interests). I had my husband Len put it high up. Out of the way. Where none of the cats could get to it.

That was wishful thinking on my part. It got knocked down twice from two different spots in the house. At the moment there is still one piece missing.

Not long after the second

Editor's note

Barbara Maple makes some intriguing discoveries in her computer mediated travels. When she wrote to tell me about her idea for this article, I really didn't understand how you could use your computer to solve a jigsaw puzzle. So when I wanted to grab a screen shot to illustrate this article I downloaded Jigsaws Galore from BBS, installed it and had a look.

Now I understand how it works and the appeal. I ask you, where else can you choose the puzzle's degree of difficulty (from easy to custom, where you choose the number of pieces from four to 4,000)? Or adjust the size of the puzzle pieces? Or ask for (and receive) a hint? Or automatically find and join two neighbouring pieces? Or my favourite, have the puzzle

solved for you, right before your eyes? And as Barbara says in the article, the cats can't get to this sort and spoil your work in progress.

While I was getting the screen shots, I even experimented with making a custom puzzle. You can use any BMP format file. So I took one of the images from Ken Holmes' article, The Buckyball with variations (*PC Update*, February 1997), I was working on it for the Melb PC web site anyway. All I had to do was convert it (from GIF to BMP format). Tell the program where the file was. Choose the number of pieces and "oddness" (the irregularity of the shapes). Then save it.

I'm not a puzzle fan, but if I were, this one could make jigsaws dangerously addictive.

Carol Daniels

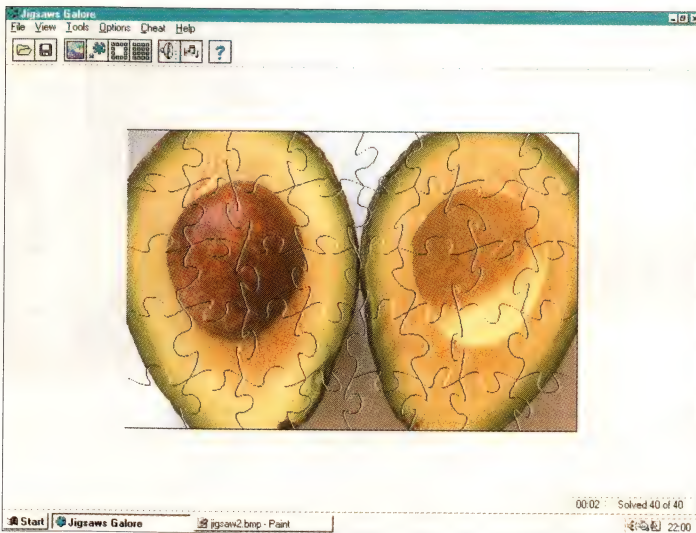


Figure 4. The avocado puzzle, completed.

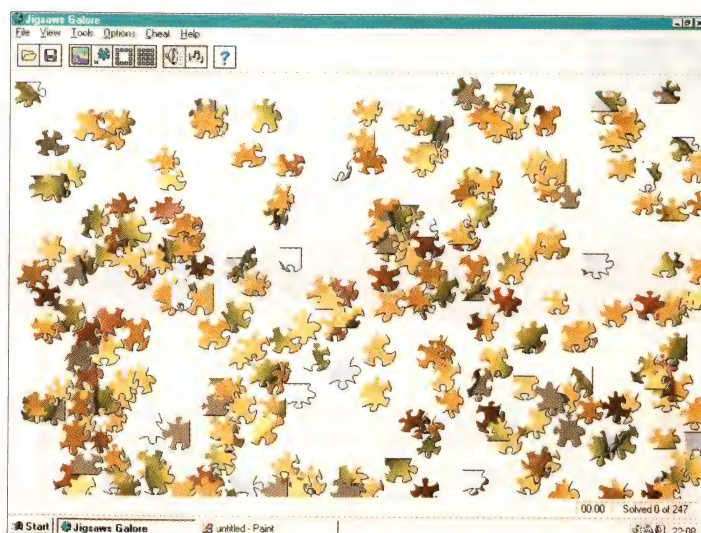


Figure 5. Avocado again, this time with at the high degree of difficulty.

incident, I was looking though the games area in the Files section of the Melb PC BBS when I came across JIGALO.ZIP. This is the BBS file name for *Jigsaws Galore*, a program for solving jigsaw puzzles, on your computer!

I downloaded and installed it straight away. It is a marvellous program. There are several jigsaws that you can choose to do. There are various degrees of difficulty and you can alter the size of the pieces. (You can also cheat, but don't tell anyone, it can be our secret.)

You can also choose a jigsaw puzzle, select *Auto Solve*, then sit back and watch the computer do the puzzle itself!

I was so taken with the program that I wanted to register it. When I was looking at the registration information I discovered the company had a World Wide Web site <http://www.delta.com/gda.com> where I could find all about the company—Gray Design Associates—and its products.

I sent Mr Gray an e-mail message telling him how much I had liked his product and asking permission to quote his name and use some of the images from his web site in this article.

He responded with a hearty, Yes!

So now when my friends who don't use computers ask me why I like using computers so much I have a real life example to show them how useful a computer can be. And when my friends who do use computers ask me why I'm a member of Melb PC I can tell them how handy it is to solve problems in the most fun and fascinating way.

I used Melb PC's BBS and Internet service to solve my problem and found a fun game in the process. And yes, my husband, Len ordered the jigsaw puzzle for me (he likes doing them too). Now we don't have to worry about the cats or the dog ruining our work.

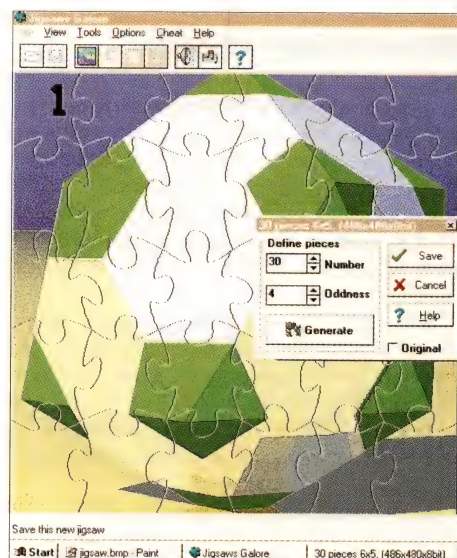


Figure 6. Making a custom puzzle from Ken Holmes' icosahedron image (*The Buckyball with variations*, PC Update Feb 1997).



UTOPIA SYSTEMS
PTY LTD

ARROW
Accounting Software

THE ARROW ACCOUNTING SPECIALISTS

Winner of the 1996 award for Outstanding Performance by a Victorian Dealer
Member of Melbourne PC User Group since 1990

- ⇒ Multi award winning accounting software
- ⇒ Single or multi-user option
- ⇒ DOS, Windows 3.x & Win95, Windows NT, Novell, Unix
- ⇒ Modular software for ultimate versatility
- ⇒ Suitable for small or large business
- ⇒ Australian made, Australian owned

Providing consulting, sales, installation, training and full support.
Let **US** meet all your Arrow business needs.

Telephone: 03-9568 0191

Facsimile: 03-9564 7530

Email: pcutopia@ozemail.com.au

CLUB PRESIDENT'S UPDATE

Stan Johnstone



Last month I finished this column by saying that long-term planning was difficult in confusing times. Well, it appears we have settled one problem that does influence a host of others, fortunately all in a positive manner.

We are moving—probably

Our lease at Albert Road is due to expire in November 1997. The current owner is not prepared to renew our lease as he is keen to sell each area under strata title. With an asking price in excess of \$500,000, it is obviously beyond our means to make a purchase of this size, particularly in a building that has little potential as an investment.

We engaged a valuer to report on the existing premises, and he considered the price to be excessive and commented on the condition of the building services. As part-owners, we would have to find the necessary finance for any replacement of equipment or services.

As a result, we have been looking around for other suitable premises located in the near area, which provides the most convenient access for the majority of our members. Why else would they locate the casino so close nearby?

When writing this (in the first week of May), we believe we have found the right building and are currently negotiating

with the owner. With an increased floor area of 30 per cent it is also better proportioned for our use, it has the opportunity to secure various areas for out-of-hours usage, and offers a degree of flexibility we lack at present.

As nothing has been finalised, there is little more that I can report at this time, however by next month we should be in the position to fill you in on the details. It comes at a time when we are looking at increasing Internet and BBS links, and it will provide us with the opportunity to create improved facilities for our members.

Now with the bit between our teeth, personally I can hardly wait to move.

Office activities

We are pleased to welcome **Margaret Greer** to the office team to replace **Tom DeLosa**. The spontaneous applause given to Tom by the audience at the May monthly meeting demonstrated the recognition of his valuable work during the time he has been with us. Tom stayed well beyond the date of his resignation to help Margaret settle in—that's the type of guy he is.

Meanwhile **Tricia Swan** has already started making lists of things to be done in the build-up to our relocation. Fortunately with the contacts she has developed, my life is made easier by being able to say "Right, you do that!"

SIGs

Morris Tobias and I visited the Ballarat sig at their May meeting where Morris gave a presentation on PartitionMagic.

Convenor **Ken Smith** gave us a warm welcome. Unfortunately the welcome must have been so like the one we received at Bendigo that every time I intended to say "Ballarat", out came the word "Bendigo". My embarrassment was very obvious to all. My apologies to the members at Ballarat, or should I say to the members at Bendigo?

After visiting both these country sigs and seeing the

wonderful job their convenors are doing, (and I am sure it is the same down in Warragul), it is disappointing that we cannot serve more members with the same opportunity to meet together in other areas of Victoria.

It is not possible to do this remotely from Melbourne. However it requires someone to collect the signature of only twelve members to start a new sig. Melb PC will then do all we can to assist with mailouts to members in the relevant areas, pay hiring fees and other costs, etc, to help with the start. It needs just one person in the area to start it all off—is that someone you? Please contact me if you would like to become involved.

Dial help

One of our strengths continues to come from the valued band of volunteers who continue to assist with this work. That list printed on the back of the mailing sheet each month should not be thrown away—you never know when you might need it.

While visiting Ballarat, the question was raised whether e-mail queries could be handled to assist members with Internet access who are burdened by STD phone charges. This makes good sense, and I have created an address: dialhelp@melbpc.org.au which I will administer initially and endeavour to pass the query on to someone with an e-mail address and the necessary skills.

Probably later on we can amend our printed listing to include e-mail addresses. However I am currently concerned that

STOP PRESS

We have now found the new offices we were looking for, and we've taken a five-year lease at 27 Dorcas Street, South Melbourne—or is it called Southbank these days? (Melway 2K H1). It is on the corner of Wells Street, and the ground floor access will give us an opportunity to prominently display our name and logo so that it is visible to passers-by.

Now the fun really begins!



VP Morris Tobias, Ken Smith (convenor) and Stan Johnstone at the May meeting of the Ballarat sig.

the listings are not as up-to-date as was promised to me, and I hope this will be remedied shortly.

So while on the subject, may I ask for any member who would be prepared to help with answering queries by e-mail to contact me and outline the areas they can assist. Going one step further, if you are prepared to help with phone queries and have your name published in the Dial help listing, please let me know. I am sure you will not find the task burdensome, and it will be rewarding.

John Morris continues to be a problem to me. Whatever I ask for something to be done he is usually the first to put his hand up. John has been fielding Internet phone queries for almost two years now, invariably on his own. E-mailed cries for help continue to be handled by myself, but leaving all the phone queries to John cannot be allowed to continue.

We need at least two more volunteers who can provide assistance purely to help new Internet users get connected—after that, user are on their own or are ideal candidates for attending an Internet training course. At least one member who can take daytime calls is necessary. All you need is (a lot of) patience and tact, and just e-mailing me your willingness to help will prove you have sufficient skills necessary for the task. Because it is often necessary to return calls or to make additional dial-ups, full reimbursement will be made for all recorded acceptable expenses.

Home visiting

This has been at the back of my mind for quite a while now, ever since it was first suggested to me by a respected long-time member. Sorry—we don't have anyone to do your washing and ironing.

From my own experience where I have visited members with computer problems, I know that we have many members who are not able to get out to meetings due to age, or minor health problems such as hearing. To many of these members, using their computer provides an opportunity

and means to maintain their interest in a variety of fields, and contributes to their quality of life.

Some get lonely, some have started using a computer late in life and just need to draw on the knowledge and experience of someone who knows a little bit more than they do. In the past I have asked and introduced some members in this manner with very pleasing results. It appears to me a small thing that many retired members may like to be involved in a quiet way of "Users Helping Users."

This is something new for Melb PC. I don't know if it will work, but I believe it is worth a try. If you would like to write to me as a "visitor" or "visitee", I will see what can be done to start this going. It is an activity that should be of benefit and rewarding to both parties. Can you help?

Introducing new members

The committee discussed and plan to implement the idea of rewarding members who introduce a new full member with credit of one month to your subscription for every new member you introduce. Although the final details are not complete, and the application form is delayed pending our new address, if any new member adds to the bottom of the form "Introduced by Bill Smith, #12345," Bill Smith will have one month's subscription credited to his renewal date.

This incentive will apply to all members including volunteers at Swap Meets, etc, but will exclude committee members. A limit of twelve "credits" in any one year will apply. We hope members will be encouraged to recommend Melb PC to their friends, relatives and workmates, who you believe would also benefit by Melb PC membership.

Unfortunately, we anticipate there will be some who will try to take advantage of this system in some way or other. If this happens, the selfishness of a few will spoil the proposal for all of you. I would like to think this will not happen.

Orientation days

These continue to be a success, and I enjoy meeting members who I have only known as an e-mail address or as a voice on the phone.

Almost half the attendees are members who have been around for some years, and it is rewarding to introduce them to some of the group benefits they had not used in the past. Question times are becoming longer, and there is becoming a much greater awareness by less active members of the full benefits of Melb PC.

Naturally all members are welcome. The next of these days will be Saturday 14 June 1997 for a free two-hour session starting at 10.00 am. Please call the office on (03) 9699 6222 to make a booking.

Seminar nights

These three-hour seminar training sessions also attract large numbers. The one planned for Friday 20 June 1997 starting at 6.30 pm has the title "Internet Tricks 'n Tips for New Users." This topic is expected to draw a lot of interest, so an early booking to the office on (03) 9699 6222 is essential. At a cost of \$15.00 it is an absolute bargain!

The training committee is always keen to introduce new topics to meet any need. We have set up an e-mail address at training@melbpc.org.au for you to post your recommendations. If you prefer to write, address it to the Training Co-ordinator, Melbourne PC User Group, PO Box 283, South Melbourne, 3205.

Onwards to next month

Hopefully next month we will have more definite news and a program for the planning and relocation to the new office.

A lot of work will need to be done over the next months involving many people, and possibly cause some short periods of interruption to services. It is a major step we are taking, and I know and trust you will bear with us.

Best wishes,
Stan



Special diary dates

When: Saturday 14 June 10.00 am.	When: Friday 20 June 6.30 pm
What: Member's orientation day —visit the office and see what goes on there.	What: Seminar-format course: <i>Internet Tricks 'n Tips for New Users</i>
Length: About two hours	Length: Three hours
Cost: Free	Cost: \$15
Where: Melb PC 66 Albert Road South Melbourne	Where: Melb PC 66 Albert Road South Melbourne
Book: (03) 9699 6222	Book: (03) 9699 6222

WINDOWS NT TRAINING

Qualified Instructors. Evening and Day Courses.

Also available: Netware and Lotus Notes training.

MCSE training	20 day course	\$5,200
Windows 95	2 day course	\$600
Windows NT 4.0 Admin.	2 day course	\$600



Call us for a FREE information kit.

J.C. Computer Network Services Pty Ltd

Ph/Fax: (03) 9799 3359 Mobile: 0414 246 494

Win 95 TCP/IP configuration utility

AN INTERNET TIP

Timothy Michael O'Leary

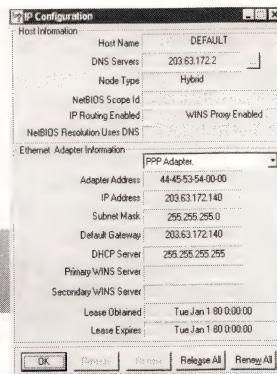
Other members may find WINIPCFG, a TCP/IP configuration utility I found in Win 95, useful for shedding some light on the status of their Internet connection.

To use WINIPCFG

If you go to *Start*, click on *Run*, type WINIPCFG, then click *OK*, you'll call up a small program that will give information about your TCP/IP connection. It's easy to copy the information into Notepad, by clicking in the top left hand corner of WINIPCFG.

Although the program is not dynamic—it needs to be closed and restarted to capture new information, the Copy command captures the information as a text table, not a graphic screen capture, so it's easy to capture the information, simply by keeping Notepad open and copying information and settings from a series of sessions—or as in my case, non-sessions—into Notepad.
tmoleary@melbpc.org.au
<http://www.alphalink.com.au/~oleary>

Right: Sample WINIPCFG output.



Windows 95 IP Configuration

```
Host Name . . . . . : DEFAULT
DNS Servers . . . . . : 203.63.172.2
                        203.63.172.3
Node Type . . . . . : Hybrid
NetBIOS Scope ID . . . . . :
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
NetBIOS Resolution Uses DNS : No
```

Ethernet adapter :

```
Description . . . . . : PPP Adapter.
Physical Address. . . . . : 44-45-53-54-00-00
DHCP Enabled. . . . . : Yes
IP Address. . . . . : 203.63.172.136
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 203.63.172.136
DHCP Server . . . . . : 255.255.255.255
Primary WINS Server . . . . . :
Secondary WINS Server . . . . . :
Lease Obtained. . . . . : Tue Jan 1 80 0:00:00
Lease Expires . . . . . : Tue Jan 1 80 0:00:00
```

Networking & Multi-Media Courses

Northern Melbourne Institute of TAFE is offering networking courses that deal with Novell and NT administration and introductory courses in Multi Media.

Certificate in Novell Administration - V4.1x System Manager (42 hours: Fee \$690)

This course prepares individuals for the CNA certification test as well as users who wish to learn to setup and maintain a NetWare 4.1x working environment.

Preston	Day	Sat	2-Aug	20-Sep	9am-4pm
Preston	Eve	Tue	5-Aug	25-Nov	6-9pm
Preston	Day	Wed	6-Aug	17-Sep	9am-4pm

Certificate in Windows NT Server Administration (42 hours: Fee \$770)

This course covers introductory and administration topics needed for the implementation of a Windows NT network environment.

Preston	Day	Thur	7-Aug	18-Sep	9am-4pm
Preston	Day	Sat	9-Aug	20-Sep	9am-4pm

Certificate in Animation & Multi-Media Production (48 hours: Fee \$770)

This is an introductory course including animation, authoring and preparing presentations using multi-media techniques. Course content includes: 2D & 3D animation techniques and multi-media production.

Collingwood	Day	Tue	29-Jul	16 Sep	9am-4pm
Collingwood	Day	Thur	31-Jul	18 Sep	9am-4pm
Collingwood	Eve	Mon	4-Aug	1 Dec	6-9pm
Collingwood	Eve	Wed	13-Aug	10-Dec	6-9pm

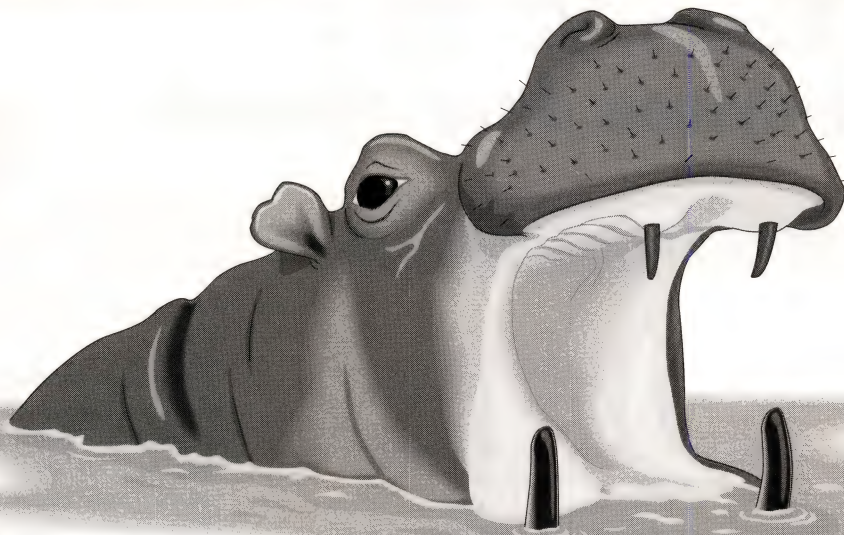
For further details and information contact:
Training & Industry Services
on (03) 9269 1483.



**NORTHERN
MELBOURNE
INSTITUTE
OF TAFE**

Web Site: www.nmit.vic.edu.au





QUESTION:

What does a hippopotamus have in common with a  Hayes modem?

ANSWER:

*Nothing really...
But check out the deal below!*

EXCLUSIVE OFFER FOR

MELB PC MEMBERS

Hayes Accura 336 DataFax Modem

CODE: ACC336DF

ONLY \$199*

* Simply present your current membership card to qualify for this great special

MODEM SUPERSTORE

167 MIDDLEBOROUGH ROAD, BOX HILL SOUTH, 3128

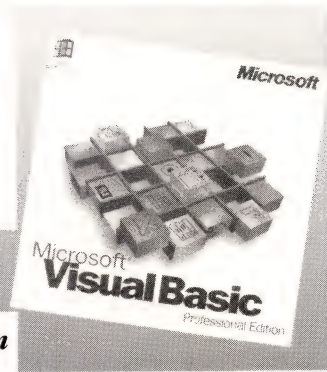
Tel: (03) 9899-4744 Fax: (03) 9897-3939

TRADING HOURS: WEEKDAYS 9:00-5:30 AND SATURDAY 9:30-4:00

Seeing the Basics: VB 5.0— Component-driven development

INTRODUCING VB 5.0

Tony Stevenson



This fifth release of Visual Basic marks another significant milestone in its short, but rich history.

It first appeared in mid-1991, and is now regarded by many in the software industry as the most popular programming language ever released (at least for PCs.) It is estimated that more than 3 million developers use it worldwide, and that number is growing daily.

Version 1.0 of VB revolutionised the way Windows applications were designed and built. Its visual approach not only made it easier to write Windows programs, it also put the fun and creativity back into programming.

Initially, Visual Basic was regarded by some of the more traditional programmers as just being "a bit of a toy". However,

they were undoubtedly proven wrong when, by version 3.0, Visual Basic had cemented itself as the preferred Windows development tool for many seasoned Windows programmers.

The release of Visual Basic 5.0, I believe, represents two major, but interconnected, shifts in the direction of PC programming: component based software, and net-aware applications.

Component-based software (CBS)

Firstly, VB 5.0 shows that it is not only possible, but that it is also highly desirable, to adopt a component-based approach to building applications.

One of the major advantages of Visual Basic has always been its use of controls, which are pre-packaged functioning objects that can be placed on the forms (or windows) contained within applications. Examples of some of the more basic controls are command buttons, check boxes, scroll bars, etc.

However, as the popularity of VB increased, both Microsoft itself and third party vendors released more sophisticated controls that developers could simply plug into their programs (and which required only a minimal amount of coding). So it became both possible and easy to incorporate complex functionality such as spreadsheets, word processors, spell checkers, schedulers, and so forth, into Windows programs.

Visual Basic 5.0 has further extended this concept of controls to the practice of component-based software (one of the

This column provides techniques, tips, and tricks to help you gain familiarity and experience with MS Visual Basic: a popular language that enables you to quickly write both Windows and World Wide Web applications.

manuals contained in this release is titled "Visual Basic Component Tools Guide.")

Building software out of components saves an incredible amount of time. Because components come straight out of the pack ready to use, there is no need to write code for each required function (and then to laboriously and exhaustively test it).

And one of the most exciting new features in this release of VB is that developers now have the power to create their own controls (if so desired). Despite the wide number of components available, there will be occasions when there will be a need to develop a component with unique functionality.

Being able to create components also means that they can be reused in other applications. Such reusability, though long promised as one of the major advantages of object oriented programming, has, until now been a lot more difficult to achieve in a practical sense.

Net-aware applications

Despite the gloomy predictions of some, the Internet is here to stay. Whilst undoubtedly the information superhighway contains a lot of material that can only

The Australian Visual Basic Users Group is organizing a weekend technical conference (16/17 August)

Preliminary topics include VB3/VB4/VB5 conversion issues; Interfacing databases, IE, Word, Excel; Application distribution, Setup Distributed computing (Client/Server) Internet programming; Jet Engine under VB5; ActiveX, and more.

Further information

Visit AVBUG's web site at:
<http://www.ozemail.com.au/~avbug>

How do you Network a Small Business?

Windows 95, Windows NT, Novell, LANtastic
Consulting ♦ Sales ♦ Service ♦ Training



(03) 9882 8044

info@netsys.com.au

Call for current price list and training schedule

BASIC basics

Part 4

Basic
All-purpose
Symbolic
Instruction
Code

PROGRAMMING TUTORIAL

John M Graham

First a note in response to some phone calls. FIRSTBAS will accept programs with line numbers and will accept programs using the reserved word LET. Numbers and LET are not in modern BASIC, but if you use old books or run an old program you need not be confused by these.

If you use an old book you may find some variations in reserved words. Do not let it upset you. If you get an error message that might be related to a word, look in FIRSTBAS HELP in the Statements

section to see if the word is there. If it is, do not use it unless you mean it.

FIRSTBAS will not SORT by line numbers, if you want to do that you must move into the operating system (OS), rename the file, sort it, then exit the OS back into FIRSTBAS and call up the changed file. The whole operation is much shorter than following this example.

```
press Alt+F (then) O
      (Oh not zero, gets you
      to operating system)
type ren myprog.bas tmp
```

```
(renames your program as tmp
type sort <tmp >myprog.bas
      (sorts and places result in
      myprog.bas)
type del tmp
      (removes tmp so you can
      use the name again)
type exit
      (returns you to FIRSTBAS)
press F3 (function key, be sure
      myprog.bas is in the box)
press Enter
type No (reply No to SAVE question)
```

```
'Start of program BASIC4
ON KEY (31) GOSUB GETOUTOFTHIS
KEY (31) ON: GOTO KEEPGOING
GETOUTOFTHIS: 'this is a label, it
               'MUST include colon
PRINT "STOPPED BY FUNCTION 12 KEY"
END
KEEPGOING:
cls                'clear the screen
print "FUNCTION KEY F12 will stop the"
print "program", then press any key to"
print " return to the program listing"
```

```
REM 1
screen 9: delay 2
```

```
REM 2
Line (100,100) - step(0,200)
Line (100,300) - step(200,0)
Line (300,300) - (300,100)
Line (300,100) - (100,100)
```

```
REM 3
m% = 75: n% = 150
Line (m%,m%) - (m%,n%),1
Line (m%,n%) - (n%,n%),2
Line (n%,n%) - (n%,m%),3
Line (n%,m%) - (m%,m%),4
```

```
delay 3 'wait 3 seconds
'Erase the first box by specifying
'colour same as background
Line (100,100) - step(0,200),0
Line (100,300) - step(200,0),0
Line (300,300) - (300,100),0
Line (300,100) - (100,100),0
delay 3
cls
```

'Make boxes of many sizes and colours.

```
'xos% is X Offset
xos%=100
for m%=0 to 400 step 50
  for n%=0 to 200 step 50
    Line (m%+xos%,m%) - (m%+xos%,n%),1
    Line (m%+xos%,n%) - (n%+xos%,n%),2
    Line (n%+xos%,n%) - (n%+xos%,m%),3
    Line (n%+xos%,m%) - (m%+xos%,m%),4
  next n%
next m%
delay 3
cls
```

```
REM 4
for i = 0 to 600 step 50
  line (i,0)-(i,50)
next i

'horizontal lines spaced at 50 units
for i = 0 to 450 step 50
  line (0,i) - (50,i)
next i
'making a figure 300 by 300 using BOX command
Line (170,0)-step(300,300),2,b
```

```
REM 5
Line (320,130)-step(0,40),12
Line (300,150)-step(40,0),11
```

```
REM 6
for r% = 1 to 3
  circle (320,150),130+r%*10,r%+1
  ' circle (320,150),130+r%*10,r%+1,0,6.3,1.0
next
REM 7
END
'Here ends the lesson on causing your screen
'to display lines and circles.
END
```

Listing 1. BASIC4

Listing 1 (continues). BASIC4

If you have learnt about batch files, lines 2 through 5 of the above can go into a batch file to reduce the number of key strokes.

The use of numbers and SORT is irrelevant in new programs, but many things are helpful in recovering old programs. This SORT does need a *little* care. If you use small numbers 2 will sort after 19, not after 1. For correct sorting all of the numbers must have the same number of digits. Numbers such as 01, 02, 03, 14, 25 will sort correctly.

To summarise the line number situation. Unless you have a strong reason for being interested in them, do not use them. They were a great idea in the days of paper tape, punched cards and computers with 4 KB of memory.

End of tutorial comments about line numbers and LET.

BASIC4

Program BASIC4, in Listing 1, demonstrates use of LINE and CIRCLE. this program draws lines on screen to show screen dimensions and distortions. See the LINE and CIRCLE words in HELP. Note the use of BOX as part of LINE. Particularly try screen modes 9 and 12. The mode is selected by the SCREEN word.

I have used the program on three computers with some variation and surprises in results. On my screen I have separate adjustments for each mode, so each can be adjusted to make the circle round. For mode 9 the box is rectangular, not square. Apparently there is a mode factor in the compiler for CIRCLE but not for BOX which results in their addressing different pixels when it could be expected that they would both address the same pixel. If you experiment with direct pixel addressing (see second example in this installment)

when displaying a circle in mode 9 you will find that the horizontal radius is as expected, but the pixel address of the vertical radius is about 11/15 of the radius.

On a new, big, modern computer I found the circle was an ellipse unless the aspect and arc were specified. This variation is included as an option in the program.

Suggestion! do one section at a time, run the program, see the result, then continue.

Following are the remarks for the program BASIC4.BAS.

1. The program must specify a graphics screen to draw lines. Try 9 (640 x 350) and 12 (640 x 480). Also look at 2 and 7 which are interesting but not practical. The delay is included because some screens take some time to change mode.
2. Draw a box using 4 LINE statements. Demonstrate use of STEP and use of

```
'MANDLEBROT
$CPU 80386
$FLOAT NPX

ON KEY (31) GOSUB GETOUTOFTHIS
KEY (31) ON: GOTO KEEPGOING
GETOUTOFTHIS:
PRINT "STOPPED BY FUNCTION 12 KEY": END
KEEPGOING:

REM DEFEXT A-Z
DEFINT C,I
SCREEN 9
y = timer
cls
for d = -400 to 200
  d1 = d/190
  d2 = d+420
  for e = 0 to 160
    e1 = e/120
    e2 = e+175
    e3 = -e+175
    a1=0
    b1=0
```

Listing 2. MANDLEBROT

```
for I = 1 to 14
  for C = 9 to 15
    a2 = a1*a1 - b1*b1 + d1
    REM a2 = a1^2 - b1^2 + d1
    'example of bad practice
    b2 = 2*a1*b1 + e1
    m = a2*a2 + b2*b2
    REM m = a2^2 + b2^2
    'example of bad practice
    if m > 4 then
      PSET (d2, e2),C
      PSET (d2, e3),C
      GOTO XIT
    end if
    a1 = a2
    b1 = b2
  next C
next I

XIT:
  next e
next d
locate 12,41,1:print "time to run ";
locate 13,45,1:print using "##.##";timer-y
END
```

Listing 2 (continued). MANDLEBROT

PRINTER SALES REPAIRS and SPARE PARTS

Laurie Rooney

Telephone: (03) 9887 4877
Facsimile: (03) 9800 1777

Factory 2, 9 Sherwood Ct.
WANTIRNA 3152

INTRONICS (AUST) Pty Ltd
ACN 070 835 488

BMC & OKI-Microline SPECIALISTS
Refurbished Printhead Service
Computer — Printer Cables & Accessories

AUTHORISED **OKI** SERVICE CENTRE

POLLOCK Computer & Technical Services



Personal Tuition & PC Problem Solutions
In your Home or Office at Times to Suit
Prompt & Friendly Service 7 Days a Week
MS Dos Windows 3.11 Windows 95

Internet Tuition & Configuration a specialty Members Discounts
Phone/Fax (03) 9598 3186 Mobile 0412 543 841
lynn@melbpc.org.au

absolute locations.

3. Make the program more general and do not use STEP also, vary the colours. Try colours 1, 2, 3 and 4.
4. Vertical lines horizontally spaced at 50 units. Chances are they do not appear as expected—0,0 in upper left corner. Get out the instruction book and adjust centre and perhaps other things of your screen.
5. Are squares square and circles round? If you can do so, adjust your screen so that in screen 12 mode the square is square. Mark circle centre.
6. Add a set of concentric circles, see HELP for format. They may not be round.
7. Add at the end of the circle command a start, stop and aspect value. ,0,6,3,1,0. According to HELP these are optional, but on some screens you can see the difference. Put both commands in the loop and move from one to the other by moving the comment marker.

If you have a 486 or faster continue with following example, otherwise do not try it, just read it, because it requires much calculation which makes it very slow.

MANDLEBROT

This is example of loading individual pixels with colours and a study of speed. (See Listing 2.)

On my 33 MHz 486 with all variables single precision it takes 37.3 seconds to run, with extended it takes 51.9 seconds. With the two loop variables defined as INTEGER the time for single precision drops to 30.4 seconds. PowerBas is about 30% faster than FreeBas.

Changing the other loops to integer makes a negligible difference probably because they repeat much less and because the program must change the integers to single to make the calculations in the loop.

To try the program variations on your computer change between integer and single and between EXT and single by REM ahead of the DEF lines.

Most of the time is spent in the I and C loops so everything possible is moved outside of those loops.

Changing a1*a1 to a1^2 and similar for all squares increases the running time from 37 to 103 seconds for single precision.

Variable C determines the colours,

retain the range as 7 steps but use different numbers, for example 1 to 7 or 5 to 11 or 3 to 15 step 2 and see the difference.

To improve speed the top and bottom half are loaded from the same calculation.

Reserved words that may be new to you in this installment are DEFINT, DEFEXT, SCREEN, TIMER, PSET, LOCATE, PRINT USING. Also used are ON KEY, GOSUB, GOTO, PRINT, END, REM and NEXT. If there are any that you do not understand, look them up in HELP. If still mystified come to the BASIC SIG on the second Tuesday of most months.

As in all previous examples, function key F12 will stop the program.

About the author

John M Graham retired several years ago from RMIT where he was a member of the Communications and Electronic Engineering department, teaching subjects related to electronics and engineering applications of computers. He can be contacted at (03) 9877 0480 or on the BBS, (include the middle initial, messages without it go to someone else). □

TELEPHONE LINE SHARING '97

AUSTRALIAN SOLUTIONS ENGINEERED FOR BUSINESSES OF ALL SIZES
SHARE A LINE AND SAVE MONEY, IMPROVE YOUR EFFICIENCY OR ADD A PROFESSIONAL TOUCH TO YOUR LINE

PHONE - FAX - MODEM SHARER

Integrate Any Fax and/or Modem into any Telephone Line using your existing number and/or a FaxStream Duet number. Completely Automatic and Transparent operation, without Compromise. No special wiring, any device at any location. Your Callers will never know it's on the Line. Scan Link facility allows your fax to be used as a Scanner.



FAX - MODEM LINE SHARER

Now you can connect one or more Modems to your Fax Line. Operate up to 8 Modems on one line, for automatic inward and outward operation. Barge-In protection is provided to prevent one device crashing in on the other while it is in use. Scan Link facility allows your fax to be used as a Scanner.



AUTO 2 WAY TELEPHONE SWITCH

This low-cost unit provides automatic connection to the telephone line on dialling. Other device is then locked out. Ideal for connection of Modems, Security Systems EFT-POS, Fax/Modems to a Fax Line, Commander, PABX or any type of telephone line.



• SUPPLIED WITH ALL NECESSARY CABLES AND ADAPTORS • DEALER ENQUIRIES WELCOME •
• 30 DAY MONEY BACK GUARANTEE • TWO YEAR WARRANTY •

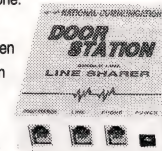
TELEPHONE LINE SIMULATOR

This compact low-cost unit will allow any two telephone devices to ring each other and communicate without the need to connect to two Telecom lines. Save 25c per call. Ideal for use as a telephone based Intercom or for Testing, Training & Demonstration of all telephone devices. This unit can generate dial tone, busy tone and 8 separate ring patterns such as FaxStream Duet and Multiple Number.



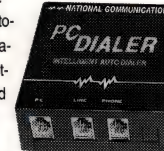
DOOR STATION

When a visitor presses a supplied intercom mounted at your front gate or door, all of your telephones will ring allowing you to answer and converse from any phone. If your line is in use, a 'Call Interrupt' facility will alert you. You can even open the gate or door with a command from your telephone. Will operate on any telephone line including all Commander/PABX type systems.



AUTO DIALER

This new 'line powered unit', which does not require power, will dial any preset number or prefix as soon as you lift the receiver of any telephone device connected to it. Ideal for use as a courtesy phone, automatic prefix dialler or any other application where the same number is repeatedly dialled. Optional PC interface and software will allow external control from any intelligent device.



Manufactured
in Australia



For a complete description of your solution, please contact
NATIONAL COMMUNICATIONS
Australia's Telephone Line Sharing Company

A COMPREHENSIVE RANGE OF OTHER SHARING DEVICES ARE ALSO AVAILABLE

National Communications (VIC) 28 Galahad Cres, Glen Waverly 3150



☎ PHONE (03) 9887 6200
email: ianmcl@melbpc.org.au

☎ FAX (03) 9803 1708
web site: <http://www.natcomm.com.au>

Tips from the BBS

BBS Tips (1)

From: Yahya Abdal-Aziz
To: All
Subject: Volunteers wanted

Hey there!

SIG Conveners need you!

Yes, you! You can either:

1. Attend a SIG meeting you haven't been to
 2. Write some notes to report on a SIG you have been to
 3. Help plan and publicise the activities of your favourite SIG
- or

All of the above!

I ***AM*** being serious. If you want to get involved, contact the appropriate SIG Convener (See PC Update for contact details) or talk to me.

This is a genuine invitation. Do not be fooled. Do not accept cheap substitutes. Do not waste time. Call now!

(03) 9562 1023 (AH) short calls please ☐

BBS Tips (2)

From: Michael Marquart
To: Greg Hardy
Subject: Messaging locally

~~ Greg Hardy said to All ~~
~~ Regarding Messaging locally ~~

Hi Greg!

GH > I have received a reply to a message
GH > from Qld. The writer politely suggested to
GH > post messages of this particular type
GH > locally rather than in an echo that travels
GH > around the world. How do I do this.....
GH > Can anyone help please...

Message areas are either Local, Victorian, National or International, and they are designated by a prefix.

The prefix LOC, to a message area, means that it is local—with a few exceptions:

1a System Updates and FAQs
(Frequently asked Questions)

2a PC Update Discussion

Here is a list of most of the local areas:

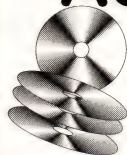
LOC.10 General MSG area b/n members
LOC.11 Help on computing
LOC.12 Hints & Tips
LOC.13 Private MSG's B/n Members
LOC.14 Shareware Discussion

LOC.14a Blue Wave Upgrade Registrations
LOC.15 Members MSG's to Committee
LOC.16 SIG News (Melb PC)
LOC.17 Local Hardware/Tech'l Chat
LOC.18 Finance Programs chat
LOC.19 Melb PC Volunteers
LOC.19a Swap Meet Discussion
LOC.20 Melb PC Training News
LOC.21 Interstate User Group Members
LOC.22 Raggin' & Baggin'
LOC.23 Local Humour
LOC.24 Women in Computing
LOC.25 Local OS/2 Chat
LOC.26 Local Internet chat
LOC.26a Internet Service Help
LOC.26b Melb PC Internet Notices
LOC.27 Games talk
LOC.30 Melb PC Bulletins
LOC.31 Local Unix Discussions
LOC.32 New File Announcements
LOC.33 Books & Writing
LOC.34 Local Gardening Chat
LOC.35 Local Sports Chat
LOC.36 HieNET Area
LOC.37 Local Programming Echo
LOC.38 Test Messages only
LOC.39 New Members Disk Team Discussion
LOC.40 Melb PC Kids/School Chat area

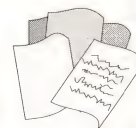
LOC.41 Melb PC Employment Adverts
Other echos have a different prefix:
NET NetMail—Private mail between you and someone on another BBS
BUY Buying & Selling—Trading
COM PC Communications related (Including Networks)
EDU Education and Occupation related
ENT Film, Television, Books and Music
GAM Computer Games related
GEN Genealogy related
HOM Home, Humour, Health & Hobbies
PEN Local and International Penpal and Discussion
PRG Programming Languages and Database packages
REL Religion, Philosophy and "New Age"
SCI Science related
SPT Sporting related
TEC Technical Hardware & Software
WIN Windows related
OS2 OS/2 related
and the actual echos exist within each prefix group, such as:
SCI.1600 Electronics
SCI.A606 Australian Astronomy Echo
where the I in 1600 designates that the echo is International in scope and similarly the A in A606 designates that the echo is Australia wide. ☐

Concerned about information management?
Imagine if you had no information to manage...

DATA RISK MANAGEMENT ASSESSMENT AND CONSULTANCY



Information management requires information protection -
and sometimes traditional backups just aren't good enough



When you need expert advice to protect your information -
so you can concentrate on management - call us!!!

Precise
Data
Recovery
Services

SOLUTIONS

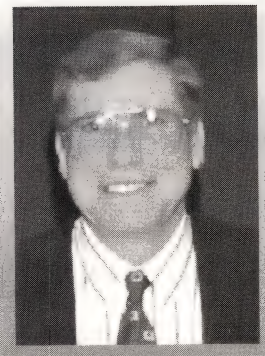
together with

by
Design

VISIT
US
SOON

399 Belmore Rd,
East Balwyn,
VIC, 3129
Telephone +613 9816 3422
Facsimile +613 9816 3490
Web Site <http://www.solbydes.com.au>

Are you looking SCSI lately?



PART 3: INSTALLATION OF SCSI SYSTEMS

Fred Townsend

Originally disk controllers were huge refrigerator sized boxes that controlled washing-machine-size hard disks. By the time IBM designed the XT, disk controllers had shrunk to single printed circuit boards. As the evolutionary process continued, some of the disk controller functions migrated to the ESDI drive. Today IDE/AT and SCSI drives contain all disk controller functions.

The IDE/AT and SCSI drives still need an interface to their host computer. Since these interfaces no longer contain disk controllers they are now termed host interfaces or host adapters. This article deals with the installation of the host adapter and the SCSI devices connected to it.

Home from the store

OK, you made the plunge and purchased your first SCSI components. Now you are ready to assemble them into a SCSI system. What do you do next?

SCSI is a complex system but with a little bit of planning, installation can be a painless process. Don't worry about existing hard drives. It is not necessary to remove MFM, RLL, ESDI, or IDE/AT drives. SCSI host adapters and devices are designed to coexist with almost any other type of peripheral device including other SCSI systems.

Usually, placing the card in the box is not the problem. For most do-it-yourselfers it's setting addresses and interrupts that muddy the installation process. History repeats itself each time an expansion slot is filled. Good news! Most SCSI host adapters simplify this installation process and may even alleviate some types of interrupt conflicts.

Most SCSI host adapters require BIOS entry, interrupt, and I/O addresses as well as a DMA channel. If they include a floppy disk controller, they require an additional interrupt and I/O address. Once these requirements are met, adding additional SCSI devices is a breeze, because the interrupts and address are already set.

Unlike a sound card or proprietary tape interface, which may share addresses, SCSI host adapters tend to default to the unused addresses and interrupts. Their addresses, usually, will not conflict with

existing devices and so moving jumpers on the host adapter is not required. Many newer host adapters use soft configuration and never need jumper configuration for anything.

SCSI BIOS address

SCSI BIOS is memory mapped to an entry point between C8000 and F0000. (Note: The trailing zero is frequently dropped from BIOS addresses so C8000 may be expressed as C800.) Most Adaptec and BusLogic SCSI host controllers ship with an address of DC000. This address will not interfere with other host controllers such as RLL or ESDI that typically use C8000 or D0000. Most MFM or IDE/AT host adapters do not require an entry point.

SCSI interrupts

Typically, host adapters provide interrupt numbers between 9 and 15 (except 13) with a default set to 11. Non-SCSI adapters typically default to 14 or 15. Again, this does not normally interfere with existing hard disk host adapters. (Using interrupts 9 or 10 is not recommended. Many machines use these addresses for interrupt cascades.)

I/O addresses

Almost every peripheral device is memory mapped to an I/O (Input/Output) address. Host adapters are no exception. If they contain a floppy disk controller, they require two I/O addresses. The floppy disk controller I/O address may not be selectable on many host adapters. (See the section on Embedded floppy disk controllers below, for additional information on floppy disk addresses.)

DMA channels

Many peripheral devices, including some SCSI host adapters, do not use DMA (Direct Memory Access) channels. However, DMA access is one of the better methods for improving peripheral performance, so having selectable DMA access is desirable. Most Adaptec and BusLogic SCSI host controllers are shipped with their DMA channel set to 5. (Local bus or PCI bus host adapters use DMA but do not use a DMA channel for access.)

**you are ready
to assemble a
SCSI system—**

What do you do?

Embedded floppy disk controllers

Many hard disk host adapters contain embedded floppy disk controllers. Except for sharing a common bus connector, the controllers are independent of the hard disk controller and may be used or disabled without effecting existing hard disk or SCSI devices. If there is a previously existing floppy controller and the new host adapter contains a floppy controller as well, one controller will need to be disabled. While it is theoretically possible to use two floppy controllers on two host adapters, it is not practical. Attempts to use two controllers may significantly effect system performance.

When two different floppy controllers exist, the choice of which one to use requires some analysis. If the original host adapter is to be used temporarily for file migration, then the floppy controller on the new host adapter should be used. Also, if the original host adapter is an MFM type, the floppy controller on the SCSI host adapter will probably give better performance. If the original floppy controller is embedded in an IDE/AT host adapter and the host adapter will continue to be used after installing the SCSI host, then it is probably simpler to disable the floppy controller on the SCSI host adapter.

Most floppy controllers are enabled or disabled with jumpers. Some of the

TLA and FLAs expanded

- AT Advanced Technology
- DMA Direct Memory Access
- ESDI Enhanced Small Device Interface
- IDE Imbedded Drive Electronics (or Integrated Drive Electronics or Intelligent Drive Electronics or Interactive Design and Engineering or Interface esign Enhancement)
- MFM Modified Frequency Modulation
- RLL Run Length Limited

Note from Fred Townsend, "IDE was Western Digital's term, and AT was Seagate's. The public picked up on IDE. Perhaps because they were afraid of IBM's ownership of the PC 'AT' trademark."

address conflict between two controllers or the soft select had previous been turned off, then it will not be possible to boot. This situation can usually be solved by temporarily removing one controller or by restoring the soft select to a default configuration using a master reset procedure. Not all host adapters have master resets or ability to disable the floppy controller. It may be necessary to disable those special cases by setting the controller to an alternate address.

Installation

Start hardware installation by making a block diagram of all SCSI components. Include all hard and floppy disks, even if they use non-SCSI host adapters. Add all network interface cards, tape interfaces, sound cards, etc. that use I/O or BIOS addresses, interrupts, or DMA channels. Also include a wish list of any future SCSI devices.

A little preparation now will save hours on installation and future expansion. Label each host device with its appropriate I/O or BIOS address, interrupt number, or DMA channel.

Now, assign SCSI ID addresses to each SCSI device. SCSI IDs range from 0 (zero) to 7 (seven). Determine if booting from a non-SCSI disk or SCSI disk. When booting from SCSI, most systems will assume SCSI address 0 contains the boot tracks so

assign this ID to a bootable device. If dissimilar disks are used, a slight increase in performance will be obtained if the fastest disk is used for booting.

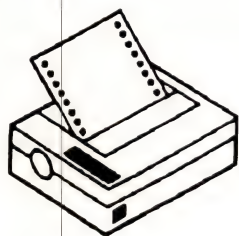
Normally ID address 7 is reserved for the host adapter. Assign IDs 5 and 6 to tape units, scanners, or CD-ROMS. Save the remaining lower addresses for future hard drives.

Caution: MS DOS and other operating systems designate both logical and physical disks in a similar manner. Both physical and logical hard disks, including RAM disks and CD-ROMS, are designated with letters starting at "C:". The reuse of the same letters can prove to be terribly confusing.

To minimise confusion, do not assign drive letters to drives or CD-ROMS. Rather, assign the manufacturers designation or model number to each block within the diagram. When formatting drives, assign the same designation to the drive volume label. When using a pair of like drives, it may be convenient to combine alias names such as "BOOT" or "DRIVE_2" or "TAPE" to produce volume labels such as "LX540_BOOT" or "LX540_DRV_2".

SCSI BIOS and installation software normally work with operating systems as old as MS DOS 3.0. However, these older operating systems limit partitions to 32 megabytes. Partitions of this size may prove to be a nuisance. If so, then an

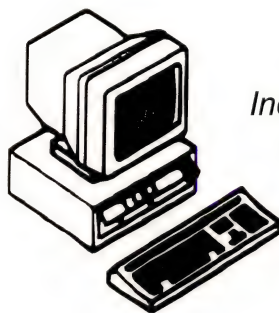
COMPUTER REPAIRS +



"Service to all IBM and Compatible Computers, Printers, Monitors, and Peripherals. All Work Fully Guaranteed."

- ☒ New Computers and Printers
- ☒ Enquire About Our Industry Leading Warranties
- ☒ Network / Modem Consultation and Installation
- ☒ Spare Parts, Cables, and Supplies
- ☒ On-Site or Workshop Repairs
- ☒ Prompt Service. Reasonable Rates
- ☒ Call Today For Friendly Advice

COMPUTER UPGRADES



"Specialists in IBM Compatible PC Upgrades, Including: Motherboard, Hard Drive, Floppy Drive, Video, Memory, Tape Back-Up Units, Processor and Multi-Media Upgrades."

Call 9585 1645

Bayside PC Services

96 Nepean Highway, Mentone. Tel. 9585 1645

OS such as MS DOS 5.0 or newer should be used. When switching operating systems be sure the new OS is compatible with any compression programs such as STACKER, memory managers such as QEMM, and tape backup systems that are in use.

Next, consider how the SCSI blocks will be connected. Most SCSI host adapters accommodate both internal and external devices. It may be convenient to keep present drives internal and use external locations for the additional drives.

Cables supplied with host adapters usually support a maximum of three devices. It is likely that expanded or future systems will require cable replacement or augmentation. Appropriate cables may be used with all seven devices or the devices may be split between internal and external cables. Cables for more than three devices are difficult to find and may require custom fabrication.

Copy the information contained within each block of the block diagram to paper stickers. The information on the tags will aid installation and will be invaluable when upgrading your system. Make tags for projected future additions too. Place the tags on the back of the devices or in the case of future devices, place the tags somewhere inside the cabinet. If possible, avoid placing the tags under the wide signal connector since this area will be hard to read when installed.

Using the appropriate documentation, configure each SCSI device. Hopefully, you obtained and retained diagrams with each SCSI device showing its addressing scheme.

The SCSI specifications deal at great length with logical addressing of SCSI devices. Unfortunately, no effort was made at physically standardising the location of SCSI ID jumpers. If you lack this documentation it may be available from your user group's BBS, directly from the manufacturer, or from the manufacturer's web site. Otherwise it may require some exploration and experimentation to determine the addressing scheme used by your SCSI device. (Host adapters normally have their SCSI IDs permanently set to 7.)

Lost the docs?

This section deals with determination of addresses for SCSI devices without manufacturer's documentation. If you have the documentation and have set the SCSI addresses successfully, you can skip to the section "Software installation".

Some SCSI device manufacturers make the ID jumpers very obvious. Other manufacturers will obscure the jumpers by placing them among like jumpers for other SCSI options. Fortunately, a SCSI system may be used to read its own jumpers. The trick is to locate the possible jumpers and then remove and replace them, one at a time, while noting their effect.

Start the procedure by carefully

mapping the location of the possible address jumpers in case you need to return the device to its original state. On 5-inch drives the jumpers are usually close to the large wide signal connector. Sometimes, they will even look like they are part of the signal connector. Frequently the address jumpers will be separated into three, four, or five pin pairs near the power supply connector. 3.5-inch drives usually do not have room on the rear for the address jumpers so they will be found on the bottom of the drive.

Make sure the host adapter is correctly installed. Prepare the unknown device by positioning it near the host. Connect the power to the device but do not connect the signal cable. If the computer has a slow/fast switch, set it to slow. Attempt to boot the host computer while carefully watching the screen. Somewhere in the boot cycle the SCSI BIOS should announce its presence. Shortly thereafter the host adapter should start interrogation by stating, "Searching for SCSI target 0, LUN 0". Since no SCSI devices are connected, its search will fail and eventually it will state something to the effect of nothing found.

Turn off everything and connect the SCSI device to the host adapter using the connectors closest to the ends of the cable. After connection, again attempt to boot. This time, after the "Searching for SCSI target 0, LUN 0" message appears, the host will discover the SCSI device and announce its model and target numbers. The target number is the SCSI address.

If the SCSI address is not correct, power down the system and change one of the suspected address jumpers by adding or removing. Repeat the boot-up determination procedure until the correct address combination is determined. **Warning:** Do not attempt to move jumpers with the power on. Jumper settings are only read at power-up so moving them with the power on will have no effect.

Remember the jumpers are binary encoded which means they are assigned the values of 1, 2, and 4. No jumpers installed is equal to an address of zero. An address of three is set by using a combination of jumpers 1 and 2. Address seven is reserved for the host adapter so jumpers 1, 2, and 4 should never be present at the same time. Also, jumpers may be used for functions other than SCSI addresses so, if after changing a jumper there is no effect or the host adapter fails to recognise a device, that jumper is probably not an address jumper. Drives are frequently shipped from the factory set to address 6 (i.e. jumpers 2 and 4 installed).

If necessary, repeat the procedure for a second undocumented device. Never attempt the procedure with more than one device at a time. Address conflicts could cause the procedure to fail.

CMOS setup

The IBM AT's CMOS setup frequently has been a source of confusion and bewilderment. The issue of physical drives, logical drives, and controllers is a major source of this aggravation. The inconsistency of CMOS precludes a setup procedure in this article.

If the boot procedure announces a Controller Error, it will be necessary to setup the CMOS for a TYPE 0 (zero) drive. If booting from a SCSI drive, set the first CMOS drive to TYPE 0. If booting from any other type drive, set the second CMOS drive to TYPE 0. Newer BIOS will automatically sense SCSI drives and do not require user setup.

Software installation

Caution: Most SCSI installation software will only install drivers for the SCSI devices that are present and functional. Be sure to complete all hardware installation before attempting driver installation. Repeat software installation each time a new SCSI device is added to the system.

Some SCSI host adapters require installation of drivers. Some host adapters only require drivers if more than two hard disks are used. CD-ROMs as well as some tape backups and scanners require drivers. Ideally, the host adapter manufacture has included a program such as Adaptec's EZSCSI for driver installation.

EZSCSI will install the drivers and SCSI utilities on the boot drive. As with hardware installation, a little planning and preparation will save a great deal of time. The SCSI utilities include a low level SCSI formatter (SCSIFMT.EXE) and a SCSI version of FDISK (AFDISK.EXE). Using these utilities may present a chicken and egg dilemma. For instance, if the utility to low level format the disk is to be installed on the same disk that is to be low level formatted, the format procedure could interfere with the formatting program. Some applications will run entirely in RAM but this is always risky. Fortunately there is an easy solution.

EZSCSI can be run from either a floppy or hard drive. Sometimes it may be necessary to run EZSCSI to install the utilities on a floppy, perform the necessary low level formatting, and then rerun EZSCSI to install the utilities and drivers on the hard disk. Unless there is information on the disks that must be preserved or your dealer has certified the disks do not need low level formatting, it is a good idea to low level format the hard disks. It is essential to format disks that have been previously used on other systems such as Macintosh or Novell. Warm up any disks before formatting by running that disk for at least one half hour.

Follow the low level format with FDISK for boot disks or AFDISK for logical SCSI

hard disks. If you are lost and don't know what a SCSI logical disk is, both FDISK and AFDISK will inform the you if they are mis-applied. Complete the process by high level formatting all partitions on the disks. Use the command:

```
FORMAT C: /U /S
```

on the primary boot partition. **Caution:** It will be necessary to complete driver installation before accessing logical SCSI disks. This is because AFDISK and FORMAT can not find the SCSI logical disks until the drivers are installed.

To install the drivers, type EZSCSI and press "Enter" twice to start the installation process. The program will show all the available SCSI devices. Verify that all installed SCSI devices are listed. EZSCSI will ask for the area to install the drivers and utilities and suggests, C:\SCSI. (Change this to your floppy drive if it is necessary to use the utilities on the boot disk.) The boot disk should contain all drivers, even if booting from a non-SCSI disk.

If necessary, complete installation with AFDISK and FORMAT for any logical SCSI disks. (The boot disk has already been formatted. Reformatting at this time will destroy the newly installed drivers.) EZSCSI will ask for a drive letter to assign a CD-ROM. Pick a letter that is not in use. Frequently a letter like "M:" is chosen to allow for future hard drives. (If CONFIG.SYS

contains a "LAST DRIVE =" statement, it may require editing to conform to the CD-ROM.)

At this point all SCSI devices should be accessible. Tape drives or scanners will require separate application software. The CD-ROM will appear to all applications like a hard drive with three exceptions:

- All files copied from the CD-ROM will have their "Read Only" file attribute set. This will prevent erasing or moving the files if they are copied to a hard disk. Consult the MS DOS Applications manual or your favorite file utility for instructions on how to change file attributes.
- Access to the CD-ROM will be somewhat slower than a fast hard disk. A few rare applications like BBS programs must be informed they are using a slow disk. Consult these specific applications for CD-ROM access.
- Adaptec's CD-Player and other special utilities will enable running other types of non-MS DOS CD-ROMs, such as audio CDs. (This assumes the CD-ROM player is capable of handling such a CD. For instance Kodak PHOTO CDS require multi-session players and full motion video will require at least dual speed players.)

Next month

Part 4 of this 5-part series: *Scsi hints and*

kinks including how to make your own cables.

Copyright © 1994, Fred Townsend. All rights reserved.

Originally printed in the Journal of the Silicon Valley Computer Society (svcs).

About the author

Fred Townsend is a consulting electronic engineer and owner of DC to Light Consulting Services. His business specialises in noise managed, system, circuit and chip designs in both analog and digital domains. Fred has as rich background in broadcasting; telephone, disk drive, microwave and computer manufacturing; military; and aerospace.

Fred has been a sysop since 1982 when he started his first BBS using a CP/M S100 system with 0.8 MB of storage on two floppy drives. Today his system is a LAN-linked, 4-line, system with over 8 GB of storage. Fred has served as an officer for several user groups and is currently president of the Silicon Valley Computer Society.

Fred is a former member of the faculties of Allen Hancock and Mission Colleges and holds a Bachelor Science degree in Electronic Engineering and an Associate Science degree in Electronic Research and Development Technology. □

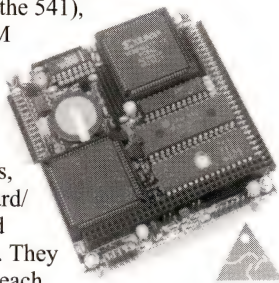
Australian-made Embedded Computers: PC/104 or ISA bus

PC540/1 PC/104 Computers

These computers use the PC/104 bus, an international standard for embedded systems. The X86 instruction sets suit standard PC compilers, or the \$179 Pacific C Compiler. These boards use the 80C188EB and V51 CPUs.

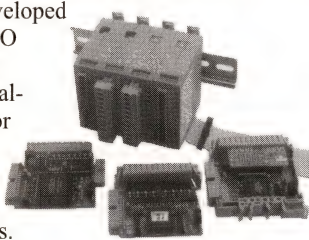
The boards run programs from PROM or a FLASH-based DOS provides the familiar DOS environment. DRAM to 1 Mbyte or CMOS RAM to 512 Kbyte is available.

Both boards have two serial ports (550 compatible on the 541), RTC, EEPROM and Xilinx gate arrays for additional I/O. The 540 has 40 I/O lines, The 541 has hard/floppy disk and LPT interfaces. They are \$350/\$450 each.



JBLOCK Modular I/O for PCs, Embedded Single-board CPUs

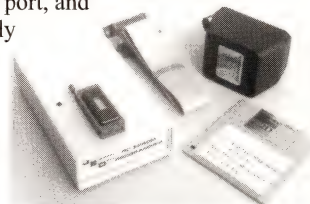
JED has developed a range of I/O modules for industrial real-world I/O for a variety of applications driven from SBCs or PCs.



A 26-way ribbon cable, called a JBUS cable, runs in multi-drop mode from an I/O port on any single-board computer to a 26-pin connector on each I/O module. JBUS has an 8-bit address and bi-directional data bus, and low-true READ, WRITE, and ADDRESS strobes. Timing is simple: strobe address and then data into the modules. An address switch in the top of each module sets up the address. Up to 63 modules are addressable, with 8 I/O per module. Modules released are 8 relay out, 8 opto in, 8 analog (12-bit) in and PC printer port to JBUS.

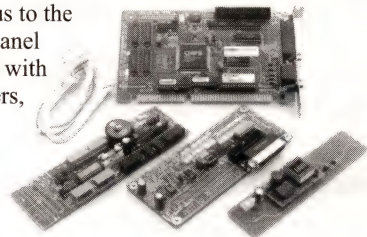
\$300 PROM Programmer

This no-fuss programmer plugs into a PC's printer port, and automatically writes PROMs from 8 k to 4 Mbytes.



AT350, AT351 LCD/EL VGA

JED has released a family of ISA-bus VGA interfaces to electroluminescent, mono, passive and active (TFT) liquid crystal panels. These boards offer a total solution, from the ISA bus to the back-panel boards with inverters, etc.



JED Microprocessors Pty. Ltd. Phone (03) 9762 3588 Fax (03) 9762 5499

Office 7, 5/7 Chandler Road (PO Box 30), Boronia, Victoria, 3155

See our data sheets at www.jedmicro.com.au

What does membership of Melb PC offer you?

BENEFITS OF BELONGING



Strength

Melbourne PC User Group Inc. has over 11,500 members and is the largest PC User Group in the world. It was founded in 1983, and is still run for its members, people like you.

The Group employs full-time office staff and some part-time help. Some services are provided by contractors, but the other functions of the club—magazine writing and editing, online services maintenance; collection and distribution of shareware; organisation of SIG and monthly meetings and more, is performed by volunteers.

The Group today proudly has a membership of people from all walks of life and with a broad range of computer skills. With this vast store of knowledge, members have access to information and help in numerous fields—programming, software solutions, DOS and Windows, communications, to name just a few.

Magazine

Melb PC's magazine, *PC Update*, is sent to members 11 times a year. *PC Update* publishes articles written by members and all members are welcome, indeed encouraged, to write articles on a subject they know about, to share with others. *PC Update* occasionally reprints articles from overseas user groups, to keep Melb PC members as up-to-date as possible.

PC Update has won awards in each of the last six years in the International User Groups' Newsletter Contest. Some of the many awards it has won are "Best Feature Articles," "Best Publication," "Best Features and Reviews," and "Best Columnist." It has also been runner-up in "Best Publication" and "Best Layout and Design." Many people join the Group just for the value *PC Update* provides, well worth the annual membership fee on its own, and then discover all the other benefits of membership.

A year's membership of Melb PC, which includes having *PC Update* delivered to you, costs about as much as it does to buy a year's issues over the counter.

Computer First-Aid and Dial Help

This unique service is made available free to members simply because volunteers within the Group give their time and knowledge to assist with any computing problems you may have. About 300 telephone numbers of unpaid volunteers, with day- and night-time contacts, are mailed to members with their *PC Update*. The service covers over 120 separate topics.

Training

The Group provides training in a diverse range of computer skills, from starting with computers to advanced programming.

Melb PC has its own fully-equipped training centre, using networked Pentium systems. Courses are run as a service to members, making them very cost-competitive when compared to similar courses elsewhere.

Students learn in a classroom environment with one computer per student. Courses include applications (such as Quicken, Excel and Word), BBS and Internet usage, and operating systems such as DOS and Windows.

Most classes are run in the evenings or at weekends, when parking is readily available. The Club's rooms are also easily accessible by public transport.

All courses provide suitable training material and support and a list of courses on offer to members appears in each issue of *PC Update*.

Monthly Meeting

Each month, except January, Melb PC holds a meeting, open to members and visitors. The meeting is usually addressed by representatives from the computer industry on topics of general interest. They frequently give away samples of software and other products. These speakers include many from Australian vendors and distributors—we have also been privileged to be addressed by CEOs such as Bill Gates, Philippe Kahn, Gordon Eubanks and others who made special visits to address our members.

There is also the ability to address questions to the membership at large, seeking advice or problem-solving. Shareware and diskettes are sold and members socialise and discuss anything that takes their fancy—even computers!

Following the meeting many members gather for a meal, arranged at a convenient restaurant, at "user-friendly" prices.

Special Interest Groups (SIGs)

The Group has SIGs covering many aspects of computer use. A SIG can deal with any topic relating to personal computing, ranging from particular applications to hardware and programming, or how to get the best from your equipment.

There are also regional SIGs, for members in outlying geographical areas.

A list of meeting dates, places and contacts for SIGs is published each month in *PC Update*, with reports of past and future activities. All SIG meetings are available to any member.

Bulletin Board

Melb PC operates a free 23-hours-a-day bulletin board system (BBS) as another member service. The BBS, running on 34 lines, is the biggest OS/2-based BBS in the world.

The BBS has two main functions—electronic mail and message exchange, and file transfer facilities. The mail and messaging facilities enable members to exchange messages with each other and to seek help on a wide range of topics, not only from other members but also from the world-wide PC community. This service gives BBS users access to an enormous pool of experience and talent on a vast array of subjects. If you have a problem, put a message on the BBS and, more often than not, it's answered in a day or so!

The BBS carries many files on a range of topics. These have been uploaded by members who found them useful and can be downloaded by other members. They include many useful utilities and the latest versions of shareware software, often obtained from overseas BBSs before appearing in other Australian outlets.

Internet Service

The club provides access to a 127-line full-featured Internet service, providing access to Usenet, ftp, irc, www, gopher and telnet.

SLIP/PPP accounts are provided. This popular service is being expanded and enhanced to serve a larger number of members.

Software Library

Melb PC maintains an extensive and up-to-date software library of programs (over 1300 disks, with about 50 new disks added each month) for IBM-type personal computers, obtained from around the world. This library of shareware software is available only to Melb PC members and is supplied on new disks at very low prices.

An order form for this software is in every issue of *PC Update*.

Shareware Registration

Much of the most popular software on Melb PC's Bulletin Board and in its software library is shareware, i.e. try free and pay only if you like and use it.

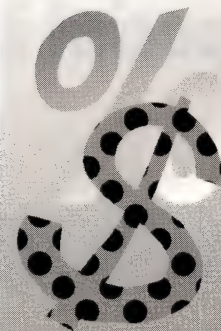
The club organises bulk shareware registrations, usually at a substantial discount.

Club-organised registrations also save members the costs of US-dollar bank drafts and overseas postage. □

Discounts for members

SAVE A DOLLAR

Discounts from members and advertisers



Computer service, parts, support, etc

Austral Data Processing Services Forest Hill

Ph: (03) 9894 0199
Fax: (03) 9894 7688
20%—(not hardware) on consultancy, data backup/storage, maintenance, hardware.

Bond Computer Solutions

Ferntree Gully
Ph: (03) 9752 2662
Fax: (03) 9752 3369
20%—(labour only) on repairs for individual Melb PC members.

Bright Business Services

North Carlton
Ph: (03) 9388 9744
Fax: (03) 9388 9755
15%—Remanufactured laser printer cartridges and inks.

Calculator King

St. Kilda Road
Ph: (03) 9866 8753
Fax: (03) 9820 9652
10%—all calculators (inc. scientific/financial and speciality). Personal Organisers: Sharp, Casio, HP, Psion.

Greensborough Computers

Greensborough
Ph: (03) 9434 6166
Fax: (03) 9434 6033
20%—(labour only) on repairs and upgrades for individual Melb PC Members. 5% on some models of new PC Systems (please enquire).

Metropolis Corporation Pty Ltd

Ferntree Gully
Ph: (03) 9752 4242
Fax: (03) 9752 3777
10%—off computer systems (includes free 24-hour software/technical support.) \$40 for up to two hours of maintenance and/or support

Moon-Ess Computers

Essendon
Ph: (03) 9326 2776
Fax: (03) 9326 2797
10%—service and repairs, new and secondhand parts and systems.

PC-Home Direct

Greenvale
Ph: (03) 9333 3856
Fax: (03) 9333 2646
5%—Texas Instruments, Toshiba & Samsung notebook computers, Packard Bell desktop computers.

PCCL Computers

Heathmont
Ph: (03) 9870 3288
Fax: (03) 9870 3288
20%—labour on upgrades, 5% on some new systems.

Pollock Computer & Technical Services

Hampton
Ph: (03) 9598 3186
Fax: (03) 9598 3186
20%—Personal PC tuition and problem solution.

Protege Solutions

Notting Hill
Ph: (03) 9558 9198
Fax: (03) 9558 9197
15%—all fax/modems and ethernet products.

Summit Computers

Lilydale
Ph: (03) 9739 6269
Fax: (03) 9735 0503
20%—on labour (service, networks, etc), 6%—hardware and software.

Books, magazines, software, etc

Advanced Computer Products

St. Albans
Ph: (03) 9364 1886
Fax: (03) 9367 3639
20%—all computer books and software.

Capricorn Programming Services

Frankston
Ph: (03) 9775 5377
Fax: (03) 9774 5434
10%—on Scanlab Vol.1 Anitvirus and virus education kit.

Collins Booksellers

(Technical and Academic Centre)
Melbourne
Ph: (03) 9654 3144
10%—computer books.

Computer Book Company

Mt. Evelyn
Ph: (03) 9737 0411
Fax: (03) 9737 0433
20%—all computer books, mail order.

Cybec Pty Ltd

Hampton
Ph: (03) 9521 0655
Fax: (03) 9521 0729
10%—Vet antivirus software for purchase.

Dymocks, Shop 2

Melbourne
Ph: (03) 9663 1344
Fax: (03) 9663 1581
10%—computer books, no magazines.

Dymocks

Brighton
Ph: (03) 9592 1911
Fax: (03) 9592 1611
10%—computer books.

Dymocks

Westfield Shopping Town, Doncaster
Ph: (03) 9848 7209
Fax: (03) 9848 7307
10%—computer books.

Dymocks

Frankston
Ph: (03) 9770 0300
Fax: (03) 9770 0400
10%—computer books.

Dymocks

Fountain Gate
Ph: (03) 9796 6459
Fax: (03) 9796 6509
10%—computer books.

Dymocks

Pran Central, Prahran
Ph: (03) 9510 2100
Fax: (03) 9519 2520
10%—computer books.

Trevor Gibbs

Melton
Ph: (03) 9743 8917
15%—books: *Windows Whys* and *Easy DOS It*, \$16.95 each, \$32 for both. Incl diskettes.

ITS Information Technology Systems

Greenvale
Ph/Fax: (03) 9333 2197
20%—computer books, Educational Software.

Mace Booksellers and Stationers

Mount Waverley
Ph: (03) 9807 1899
10%—computer books.

McGills Authorised Newsagency

Melbourne
Ph: (03) 9602 5566
10%—computer books.

Polyester Books

Fitzroy
Ph: (03) 9419 5223
Fax: (03) 9419 5451
10%—on all fiction, science, computer and non-fiction titles, magazines, comics & T-shirts.

RMIT Bookshop

Melbourne
Ph: (03) 9663 5855
Fax: (03) 9663 7528
10%—all books.

Technical Book and Magazine Company

Melbourne
Ph: (03) 9663 3951
10%—computer books.

The Worsley Press

Rutherglen
Freecall: 1800 622 805
Ph/Fax: (060) 32 8122
10%—& free postage.

Other services

Adept Accounting and Taxation

Mill Park
Ph: (03) 9436 7604
10%—on all taxation return preparation and business accounting services.

Express Bookkeeping

Carnegie
Ph: (03) 9563 4770
Fax: (03) 9563 4477
10%—on all bookkeeping and financial management services.

Min Thong Lee

c/- AP Insurance Brokers
Queen St, Melbourne
Ph: (03) 9602 1869
Fax: (03) 9602 1876
5%—life insurance, loans, home & contents, motor, commercial.

Michaels Camera and Video

Melbourne
Ph: (03) 9670 1333
Fax: (03) 9670 0074
up tp 10%—on digital cameras, scanners, Internet video conferencing, scanning bureau.

Mike McKeon Music

Dingley Village
Ph: (03) 9551 7363
5%—on our Octet or 10% on a 14 pce. Big Band and two vocalist. Discount off Musicians' Award rates. For Dinner dances, balls, weddings and other special events.

Newtech R&D

Kilsyth
Ph/Fax: (03) 9723 7535
10%—on electronics consumer product design and Japanese translation.

Tortoise Head Guest House

French Island
Ph: (03) 5980 1234
Fax: (03) 5980 1222
10%—on accommodation, fully catered, adjacent bay.

Special interest group meetings

MELB
PC
USER GROUP



CLUB ACTIVITIES

Access (Database)

Ray Watson

(03) 9883 4382 AH
Fax: (03) 9576 9591
2nd Monday, 6.30 pm
Melb PC SIG Room

Assembly & Other Languages

Felix Hofmann

felix@melbpc.org.au
(03) 9523 5400 AH
1st Thursday, 7.00 pm
Melb PC SIG Room

Ballarat

Ken Smith

kensmith@giant.bnc.com.au
1st Thursday, 7.30 pm
(03) 5332 7851 BH & AH
(except school holidays)
Ballarat & Clarendon
College, Junior School
Campus
614 Mair St Ballarat

Bendigo

Russell Collins

(03) 5439 3708
2nd Wednesday, 7.30 pm
Girton Grammar School
(Computer Room)
105 Mackenzie Street
Bendigo
(Vine Street entrance)

C/C++ Programming

Ken Holmes

(03) 9583 1504 BH & AH
4th Monday, 7.00 pm
Melb PC SIG Room

Clarion

Alan King

(03) 9882 8044 BH
4th Wednesday, 6.30 pm
Suite 9,
96 Camberwell Road
East Hawthorn
(Through wire gate and
up the stairs on the
south-east side of
Roseberry St)

Communications

Philip Lew

(03) 9822 2998 BH
(Brief calls please)
2nd Wednesday, 7.00 pm
Melb PC SIG Room

Daytime

Felix van Lier

felixvl@melppc.org.au
(03) 9525 3962 BH & AH
Deputy convener:
Brian Taylor
2nd Thursday, 10.00 am
Melb PC SIG Room

East

Keith Lane

keithln@melbpc.org.au
(03) 9762 6644 Anytime
(03) 9761 1414 Fax
Asst convener:
Stewart Tanner
(03) 9879 9776
2nd Tuesday, 7.30 pm
Gas and Fuel Theatre
200 Rooks Road, Vermont

East Workshop

Aldo Pitre

aldop@melbpc.org.au
(03) 9878 7959
Asst convener:
Ian Paterson
(03) 9755 2238
Ring for dates
Unit 11,
27-33 Rooks Road
Mitcham.
(Offices of Haldatec P/L)

Freeware and Shareware

Doug Westcott

dougw@melbpc.org.au
(03) 9898 2765 AH
Co-convener: Tony James
3rd Tuesday, 7.00 pm
Melb PC SIG Room

Graphics

Yahya Abdal-Aziz

(03) 9562 1023 AH
(brief calls please)
Asst convener:
Kevin Gorie
3rd Monday, 7.45 pm
We meet in the bungalow
at the rear of Nadish
Naoraji's home,
8 Park Crescent
North Caulfield

Hardware

Felix Hofmann

felix@melbpc.org.au
(03) 9523 5400 AH
3rd Wednesday, 7.00 pm
Melb PC SIG Room

Music

Yahya Abdal-Aziz

(03) 9562 1023 AH
(brief calls please)
Asst convener: Eric Best
(03) 9646 6898 AH
2nd Thursday, 7.30 pm
Melb PC SIG Room

New Users, Central

Graham Paul

(03) 9417 5315 AH
3rd Monday, 7.00 pm
Melb PC SIG Room

New Users, East

Doug Brooke

(03) 9822 3458 BH & AH
2nd Tuesday, 7.30 pm
St Mark's Anglican
Church,
Cnr Canterbury & Burke
Rds
Camberwell

OS/2

John Angelico

talldad@melbpc.org.au
(03) 9544 8792
4th Tuesday, 6.30 pm
Melb PC SIG Room

Programming

Ross Hall

(03) 5428 6470 AH
(03) 9699 4000 BH or
Andrew Callaway
acal@ozemail.com.au
(03) 9619 4067 BH
2nd Tuesday, 7.30 pm
Melb PC SIG Room

Quicken

Viv Martin

martinv@melbpc.org.au
(03) 9583 5372 AH
4th Thursday, 7.00 pm
Melb PC SIG Room

Retired & Interested Persons

Ken Thomas

(03) 9884 5309 BH & AH
4th (not last) Friday,
10.00 am
Lutheran Church
25 Cypress Avenue
Glen Waverley

UNIX

Yahya Abdal-Aziz
(03) 9562 1023 AH
(brief calls please)
3rd Thursday, 7.30 pm
Melb PC SIG Room

Video Editing (Linear)

Albert Vanzet
vanzet@melbpc.org.au
(03) 9439 1768
Derek Hampson
(03) 9853 2482
4th Monday, 6.30 pm
Michaels Camera Store
269 Elizabeth Street
Melbourne

Video Editing (Non-linear)

Lawrie Weston
(03) 9742 373
Kevin Gorie
(03) 9870 3965
2nd Monday, 6.30 pm
Michaels Camera Store
269 Elizabeth Street
Melbourne

Waffle

Vince Thornton

018 171 344 or
Andrew Callaway
acal@ozemail.com.au
(03) 9619 4067 BH
"Eat-ins" after monthly
meeting.

Warragul

Gordon Ross

(03) 5623 5434 AH
1st Friday, 7.30 pm
Warragul Leisure Center
Function Room

Windows

Mikhail Bortolotto

(03) 9888 2360 AH
1st Monday, 7.00 pm
Melb PC SIG Room

Word Processing/DTP

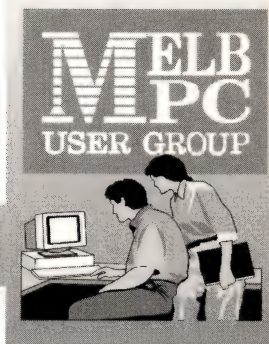
Loraine Briggs

lbriggs@melbpc.org.au
(03) 9563 6396 AH
014 693 882
4th Friday, 7.30 pm
Melb PC SIG Room

The Blind Citizens Support Group
meets at 7.45 pm on the 3rd Tuesday
of each month, at 1st Floor, 87 High
Street, Prahran. For further details,
please contact John Machin, on (03)
9569 1440 (BH).

SIG meeting reports

CLUB ACTIVITIES



Ballarat

Ken Smith

March

Some people might assume a Windows 95 night to be a bit ho-hum, after all we have been using it for 18 months. So what could we learn? Well the answer is lots. Stan Szydzik led us from the beginnings through to the complexities of peer-to-peer communications and file transfers. If the number of questions is any measure of a successful presentation, Stan was very successful. Feedback from just about everyone was that Stan should come back again to pick up where he left off. Then he can give us insights into hitherto unknown or dreamt-of areas. Stan's easy, to-the-point and knowledgeable answers (with demonstrations) are a trademark of his style. We look forward to seeing him again in the near future, watch the advertisements in the local *Courier* for his next appearance. (Probably July)

April

This was again a great night, James Baker, a local professional graphic artist and young whiz, took us down the road of image editing using PhotoShop. James uses it daily at work on an Apple Mac

platform, so it was to his credit (and the developers at Adobe) that he breezed through a presentation on the IBM.

From having lifelike leopards standing sentinel at central Australia's Olga's to removing shadows, creases and unwanted lampposts from photographs (that we had given him), James simplified the complex program to a level mere humans could understand. All attendees gained something from the experience, we are very lucky to be able to call on such great local talent.

Bendigo

Russell Collins

Tim Newbegin, Archives Officer from LaTrobe University, gave us an interesting presentation at our April meeting. Some members were surprised to find how long some business data must be retained, virtually forever.

In May, Andrew Moon held our attention with his talk on Intel's new MMX Pentium chip, and the general quality of computer components.

June is scheduled for Genealogy, with speakers from G.U.M. coming along. G.U.M. is Genealogy Using Micro-computers, and offer services and a range of software to people interested in this area.

A visit to Coliban Water's offices is planned for July. Now privatised, Coliban Water is operated by Corvico, and the management there is anxious to show off the computers and software.

August will be dedicated to Farm Software, Alan Stevens, an agronomist with Westfarmers Dalgety, who has researched a number of Farm Management software packages, will be our speaker.

We have found that new computer users often purchase second-hand units cheaply, and then find themselves with difficulties understanding their purchase. To meet their needs, we are now dedicating part of each monthly meeting to helping them with their problems.

East

Margaret Brown

Bob McLean welcomed us to our new venue, the Gas and Fuel Theatre in Vermont. We hope to use the spacious, large foyer as a display area for future presentations.

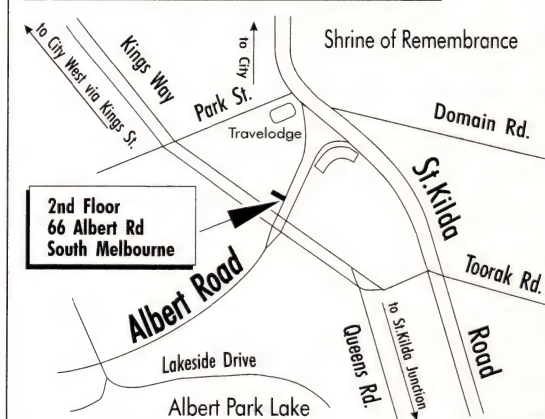
This month we were particularly pleased to welcome George Skarbek, life member of Melb PC and regular contributor to the *Melbourne Age* and *PC Update*. His assistance during the evening was much appreciated. George was able to

Meetings Calendar

(Check with SIG Convener when a SIG meeting falls on a Public or School Holiday)

	Monday	Tuesday	Wednesday	Thursday	Friday
First	Windows ‡		Main Monthly Meeting Waffle	Assembly & Other Languages ‡ Ballarat	
Second	Access (Database) ‡ Video Editing (non-linear)	Programming ‡ East New Users, East	Bendigo Communications ‡	Music ‡ Daytime ‡	
Third	Graphics New Users, Central ‡	Committee ‡ Freeware and Shareware ‡	Hardware ‡	UNIX ‡	
Fourth	C/C++ Programming ‡ Video Editing (linear)	OS/2 ‡	Clarion	Quicken ‡	Word Processing/DTP ‡ Retired and Interested Persons

Melbourne PC User Group Locality Map



‡ Many SIGs meet at Melb PC's premises, on the second floor at 66 Albert Road, South Melbourne.

reassure DOS users who have upgraded to Win 95 and now don't use XTree Gold, that a fully integrated 32-bit version is available, a shareware product called ZTW.

The East meeting is now structured around five permanent segments—Questions and Answers, Windows 95, Shareware, Internet and Tips and Tricks. We are hoping to introduce transport co-ordination to streamline access for people attending from the same areas.

Frank Walsh demonstrated a shareware program that literally controls his life. Remind v5.5 is an old, simple but reliable DOS-based program that prompts him to remember everything from family birthdays to heartworm prevention tablets for the dog. Reminders entered in the database appear on the screen when the computer is first turned on. Frank told us that of the many and varied, but similar purpose shareware programs he has tried over the past seven years, it is one of the very few that have stood the test of time.

Warren Kent responded to Windows 95 questions asked prior to the meeting. Most problems concerned installation, followed by requests for advice on removing the program! He gave a wide ranging and informative session including some sound advice regarding computer shut down. He explained that correct procedures are absolutely vital with this program. If the computer is turned off during operation it is not a question of if, but when, major problems will occur, the system is not at all forgiving. Warren has agreed to run a Windows 95 session at each meeting.

John Cuthbert will be demonstrating scanning techniques at the Sunday workshop. At the meeting he gave a non-technical overview of scanning applications and techniques he uses. Frequently in business situations suitable clip art is not available, clients naturally want to use their own logos and graphic material, and a scanner becomes an invaluable tool. Another example given concerned resume editing. It can be quicker to update a small section of text rather than redoing an entire document.

The present level of interest suggests that we should continue the monthly segment on the Internet. The April talk, in part at least, was preparation for the hands-on session to be held later in the month. The subject for the evening was newsgroups and included information about configuration and Network Transmission Protocol.

Laurie Rooney, a current member and supporter of East almost since we started, gave a short talk and video presentation about laser printers and how they work.

Tips and Tricks ended our evening on a high note with advice from Keith Beresford on how to organize our desktops, examine fonts, accelerate the boot process and more.

May meeting—digital cameras with

Kodak, new releases

Contact the author, Margaret Brown,
Ph: (03) 9874 5778 Mb@alphalink.com.au

Hardware

Bill Kessler

The evening started with discussion of the new standard PCTV. Compaq, Intel and Microsoft are all reported to be working on products incorporating PCTV.

The following questions were asked or discussed

- My supplier has replaced the motherboard on my computer many times. Now I have a computer that works but, on bootup, the screen does not report any pipeline cache. I was told that it is there by my supplier. Since I do not believe him, how can I check that it is in fact there?
- How long do you think it will be before the command line disappears altogether?
- I bought a new hard drive. Why can't I use my old one as a slave?
- All of a sudden my printer does not work using Windows Fonts. It still works using printer fonts. What should I do?
- I use Windows 95. However I have a certain program to run which must run in DOS Mode. The sound card doesn't work in DOS mode. Can I make it work.

OS/2

John Angelico

About 20 OS/2 users, including some new people, attended the meeting, which featured our regular guest Nick McGuigan from IBM Melbourne.

OS/2 programming platform of choice

Due to due to unforeseen circumstances, representatives from McGills and Software Express were unable to attend, we did however, have a display of literature from McGills Bookshop Computer Section, relevant to the evening's topic.

SIG Convener, John Angelico, outlined programming choices for OS/2 users, include (in increasing levels of investment in platform tools)

- REXX Classic and Object varieties (plus batch file "programming")

- Java

These come with Warp 4. REXX Classic is available on Warp 3, Java can be added if you download Netscape 2.02 for OS/2 from the IBM-Netscape site. With these you can start programming immediately without further investment in tools. They are especially suited to individual problem-solving and shareware "level" programming. You can also add various REXX tools (VREXX, VisProREXX etc).

- End user development aids for shrink-wrap products, including DbExpert, OnCmd for xBase development, Lotus Note/Domino tools for the Lotus environment, compilers for individual languages, etc.

- Full-scale integrated development environment tools which require a serious financial investment (roughly \$400 plus).

Next Nick spoke about the facilities of such tools by reference to IBM's product Visual Age, there are of course a number of others. With the help of very useful handouts, he demonstrated drag'n'drop functions and the substantial similarities between interfaces for various language offerings (VB, COBOL, C/C++, Smalltalk etc.). These tools are geared towards object oriented programming, with special features for browsing classes, querying objects, importing class libraries, etc.

Open forum

After the break, it was time for general support and installation questions, tips and hints. Some people found others who could help with the fine details and the meeting closed with small groups intensely working on solving problems.

News

The OS/2 SIG now has an electronic mailing list. Bob T has undertaken to keep us all posted regarding software arriving on the BBS (which, as we found out at the February meeting, is currently easier to access than the Melb PC Internet service).

Tuesday 24 June 1997, Java with a special look at the Corel Suite. Deferred from the May meeting.

Retired & Interested Persons

Bill Cooney

Ilias Gouletsas! No, it's not an inscription from an Athenian temple, but it is Greek. It is the name of the guest speaker at our April meeting. His presentation, on "Disk Technology" was as entertaining as he was informative about his subject. Of the 100 or more members present, only about five left before the conclusion of the presentation. Ilias covered all aspects of manufacture, quality variations, care and feeding of CDs and floppies, as well introducing us to DVM technology. Great stuff Ilias, thanks.

We took a punt and held our meeting on the schedule, in spite of it coinciding with Anzac Day. It did not greatly diminish the attendance.

New users gather at 9.00 am, along with those interested in printing, genealogy and database computing. Novices and those interested in Win 95 gather afterwards. All segments seem to be growing. Ken Thomas, our genial convener, announced that those in the printing group had arranged a speaker from Spicer's to talk about "Paper in Computing" an increasingly important aspect of our consuming interest.

The RIP SIG Database disk (\$0.50) seems to be filling a need and many listed members have received social and "information please" calls since its launch

last month. Well done guys.

If any of the above interests readers, please contact Ken or come along to a meeting and see if we can help you too, I'm sure we can!

Video Editing

Albert Vanzet

In April the PC Video Editing SIG was split into two separate SIGs. Linear for those who wish to operate less comprehensive video editing programs and Non-Linear sig to cater for those who are already using compression hardware/software packages or are seriously considering taking that step.

It is clear that the PC Video Editing SIGs are very popular. We have 75 members listed who wish to attend these SIG meetings. By splitting the SIG into two groups we find that more members can attend our individual meetings.

Non-Linear meetings are on the second Monday of the month. Linear on the fourth Monday. The meetings commence at 6.30 pm sharp, instead of the previous 7.00 pm. Remember, you must be at the venue, Michael's Camera Store, before the doors close at 6.30 pm sharp.

Lawrie Weston and Kevin Gorie are the new conveners for Non-Linear sig, Derek Hampson and I will carry the task for the Linear sig.

As there are still more members listed than seats available, you must book in advance.

At the April meetings we distributed questionnaires asking about attendees' interests in video editing and the type and capacity of the equipment they currently use. This information will help members with similar equipment, software or interests communicate with each other.

Those who are listed as interested members and who have not yet received these questionnaires have been sent a copy in the mail.

Any collated data will only be made available without names, addresses or telephone numbers unless authorised to do so by the originator. This will keep personal and property details confidential.

We hope that the information so obtained will enable the conveners to plan future meetings and keep them interesting and entertaining.

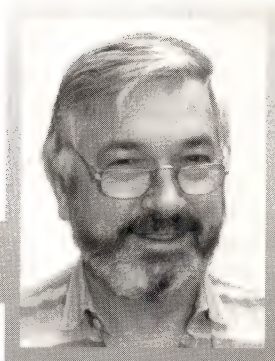
Booking for the 23 June Linear sig meeting ring Albert Vanzet at (03) 9439 1768 or email vanzet@melbpc.org.au. Until further notice for other future meetings ring Derek Hampson at (03) 9853 2482.

There will be no "Non-Linear" sig meeting in June because of the Queen's Birthday weekend. Otherwise ring Kevin Gorie at (03) 9870 3965 for future Non-Linear meetings.

Uploading dos and don'ts

USING THE BBS

Colin Lovitt



Having had some experience as Files Sysop, and (seems like in an earlier life) with the separate Files BBS which once existed at Melb PC, I thought I'd detail a recent experience and some strongly-held views (some have been unkind enough to inform me that all my views seem strongly held!) about how to ensure that your good deed (uploading files to the BBS) is appreciated by as many fellow members as possible.

Recently, a Melb PC member uploaded the McAfee VirusScan version 3.0.0 suite of programs for Windows 95 to the BBS. It now transpires that he had downloaded a beta version, not the final release. The suite was broken into three parts, apparently intended to allow what was originally about 3 MB to be accessed by floppy.

Unfortunately, the upload was corrupt, probably as a result of some well-intentioned soul having broken up the large .DAT file contained in the suite, unwittingly creating a corruption in the process.

Like many other members, I obsessively check the New Uploads file section for updates to regularly used programs, as well as the latest shareware and freeware tit-bits. I'm on the board fairly often, and it seems to take longer these days for recent uploads to be distributed to their appropriate niche.

The McAfee suite for Win 95 has been installed on my PC since I first installed Win 95. I regularly update with the latest version, formerly v.2.09. When I saw that version 3.0.0 was now on the board, I had to have it, of course! Viewed the WHATSNEW file on the BBS, and saw that there were a number of innovations and improvements, including the creation of a McAfee Emergency Diskette during installation.

Downloaded, extracted the files, and set about installing. Trouble loomed. A message appeared stating that one of the necessary .DLL files was missing. This was a mystery—I had never had a problem, or a missing .DLL with earlier versions of McAfee. But I had to have it on my system, and so soldiered on.

During the creation of the Emergency Diskette, the system locked up. Nothing would unfreeze it (tried Norton's

Crashguard, then Ctrl+Alt+Del). Worse, nasty messages appeared when I attempted to reboot into Win 95.

Time to peruse my emergency files, diskettes, etc. But first, booted up in Safe Mode. This worked. Got to the Control Panel—Add/Remove Programs. What purported to be version 3.0.0 was there and was immediately removed. Rebooted, all was well, so I re-installed version 2.09 (I keep copies of my major shareware programs on another drive on the PC, as well as a backup tape). Deleted all traces of the files I had downloaded.

Meanwhile, on the BBS, messages started to appear from members who had had identical problems when attempting installation of the same suite. The sysops removed the offending files, and Peter Teer obtained and uploaded the authentic, untarnished suite which I downloaded and installed without a hitch.

Lesson 1

Make sure you have emergency procedures at your fingertips. As well as a backup of your files, backups of Win 95's registry are available in several forms. You can import a copy of the registry to the desktop, or better still, move it to a folder out of harm's way. You can use the Emergency Recovery Utility (ERU) to create an emergency set of files. ERU is on the Win 95 CD-ROM (OTHER\MISC\ERU folder). I have created a folder under Windows for it, and regularly make copies of the emergency files, saving the most recent on diskette. Then there is CFGBACK, another program found on the CD (OTHER\MISC\CFGBACK), and copied to my Windows folder. It creates up to nine backups of the registry. I keep copies in my Windows folder, and backups on diskette. Finally, there is the Win 95 Startup Disk created when Win 95 is installed, as well as a good old boot disk, with system and other important files. A fella can't be too sure, these days.

Lesson 2

In such a situation, booting to Safe Mode will generally enable repairs to be done. Do them ASAP, and don't be distracted by any other urgent job. Get the system clean and back in working order first.

Lesson 3

When downloading files, if you are not confident of making emergency repairs, wait until recent uploads have been on the board for a safe period. If in doubt, look in Local Message Areas 10 (General), 11 (Help), and 12 (Hints and Tips). If a problem has arisen, it will soon be discussed in one or more of these locations, as it was in this case. From my experience, if the program is not one connected with the Internet, you are more likely to read about it on the board than in *melbpc.general*.

Lesson 4

The eight step path to happy uploading

- It is not necessary to upload files to the board in order to maintain some sort of upload/download ratio. Whilst some boards implement such a scheme, we do not. We have the luxury of thousands of members using the board. Statistically, any new, worthwhile, file or program, from the Net or elsewhere, will appear with alarming speed on our board. There are many users who conscientiously test and upload material found from another site.
- When contemplating an upload, ensure that it does not already appear on the BBS. Do a global search, watching also for a slightly different filename. Above

all, do not upload your favourite program if it has been around for a few months. If it is worth a fig, it will be on the board, and yours may have even been superseded by a later version (itself probably also uploaded).

- Once satisfied that the file/program does not exist on the BBS, ensure that the upload is the exact file downloaded from the original site, and has not been tampered with by others, including sticky fingers at home.
- Under no circumstances should you compile a zipped file or set of files from a working set installed on your PC. It is likely to contain idiosyncratic configuration files, data, altered setup files, etc. A quick look at the dates of the files comprising any program on your PC will bear this out. Furthermore, it may be impossible, once installed, to re-assemble a program to install at all, or at least in the manner intended by its author. This is particularly the case with programs created for installation with Win 95's installation wizard.
- Always test the recently downloaded, archived file on your system and only upload it when satisfied it is in perfect working order.
- Only upload files you have obtained from reliable sources, preferably the

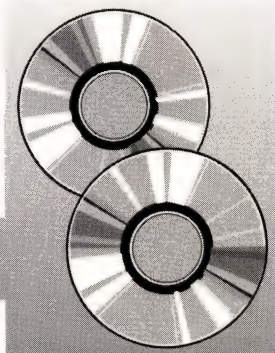
developer, author, a recommended mirror site, or a reliable BBS.

- Avoid being "helpful" by breaking up a large file into sections capable of fitting on a diskette, or to facilitate downloads by slow modems. If there is any logical reason for this to be done, it will be done by the sysops. In any case, there are excellent file-splitting utilities on this board, e.g., HJS, together with the disk-spanning add-on for WinZip, plus PKZip's disk spanning capability. If the program is simply enormous, and you can't upload it in the two hours allowed per day, then you either need a faster modem, a better comms setup, or you are attempting to upload the definitive collection of Doom Wads. (If so, they are probably already on the board anyway!)
- If the file is a beta version, or a time-limited demonstration copy, make sure that you say so in the description you type in when prompted to do so after the upload has been completed. And do try to inform us all, and the sysops in particular, of the full, apt description. "Beaut game" or "Latest version" tells us nothing. Instead give the program's proper title and version number, a summary of the .DIZ file is always a good place to start. □

Verify or else: A boy's own adventure with CD-ROM backups

A USER'S EXPERIENCE

Michael Marquart



**if you back up to
floppy disk, hard
drive, tape, Zip
drive or CD-ROM,
you should verify**

Have you ever thought about backing up your precious data from your hard drive onto a CD-ROM? I did more than think about it. I did it. More than once. I've had six copies of my hard drive made. It's been an experience (not all good.) In fact it was one of those bad experiences that prompted this article, in the hope that other members might benefit. Even though it hasn't been trouble free, I'm glad I did it. I would even recommend it, but only if you know the potential pitfalls, and what you can do to avoid falling into them yourself.

Chapter one, in which our hero burns his first one...

I was very excited about having my first CD-ROM back up of my hard drive. I

looked at the files and subdirectories and all looked fine. Well, not excited really. I was elated! Now if my hard drive fell over in a heap, I wouldn't have to spend weeks trying to recreate all those batch files, directory structures and custom configurations. Nor would I have to re-install all those applications and games from floppy disks. All I would have to do, I thought smugly, was shell out for a new hard drive and copy my CD-ROM onto it. Wunderbar!

Chapter two, in which our hero is burnt by his first one...

My self-satisfied state was short lived. Not long after taking delivery I was showing of my newfound pride and joy to a friend. After copying a small utility from the CD-ROM to his hard drive, for

the purpose of showing him how easily I could restore a humungous (but rarely used) program that was gobbling up precious hard drive space, I tried to execute the utility. The PC hung.

"No problem," I thought to myself, "PCs hang every day for no good reason! I'll just reboot..." Well, the same file hung the PC again. And again.

I thought, "That file works on my PC, Hmmm.. I'll try another one." You have probably guessed that the next one didn't work either. Now I was perplexed. Could it be that my delight in technology was ill-founded?

Chapter three, in which our hero puts on his Sherlock Holmes hat...

When I arrived home, I compared the original file with the defective CD-ROM one. The first two bytes were different! I examined the code in the .COM file and discovered that the first instruction was a jump to just past the end of the file. Curious, I thought, and then...Eureka! I recalled that viruses commonly change the first byte of a program to a jump to the virus code—which is tacked onto the end of the file—when the virus installs itself.

I continued my investigation using the latest version of McAfee's Virus Scanner on the CD-ROM. I found a large number of .COM and .EXE files flagged "may not be executable!" but no files were infected, and a full scan of my hard drive showed no irregularities.

It just so happened, that another Melb PC member had also had a CD copy of her hard drive burnt by the same vendor, at the same time I had mine done.

I rang her and asked if she had used her CD-ROM. No, She hadn't. A quick scan of her CD-ROM and, lo and behold, there was the Junkie Virus, in all its splendour!

I don't know which of us was more surprised. A scan of her hard drive showed it to be as clean (virus free) as mine was. The only logical conclusion, my dear readers, was that the infection had to been introduced during the making of the CD. The vendor's system must have been infected with the virus—which had been discovered in time to disinfect mine (albeit, inadequately) but not before it had infected the other member's CD.

Chapter four, in which our hero confronts the vendor...

I queried the vendor and he swore that he had no viruses. He did however, offer to burn me another CD-ROM for just the cost of the CD-ROM itself (his generosity knew no limits.) Because I was enamoured of this new technology (and I'm too much of a gentleman to argue against a bold-faced lie) I accepted his offer. I took my hard drive back to him and he burnt another CD for me. I left (wiser for the experience) with my first

usable CD-ROM backup.

I decided then that a casual comparison of the hard drive and CD was not sufficient to ensure that a CD-ROM backup would be up to the task for which it had been created. Thus I embarked on a programming project that would verify that the data written to my CD-ROM was in fact an exact duplicate of the data on my hard drive—but more about that later.

First, to allay any fears that you, my readers, may have that CD-ROM backups do not work, I must confess, that since that initial experience I have had six CD-ROM backups burnt. All of them have been perfect, save the first. And the last.

Chapter five, in which our hero learns another lesson...

For the sixth back up CD I switched to a vendor closer to my home and who had a faster CD-ROM writer. I thought it would be easier and faster to switch, rather than remain with the vendor I had been using. (This was not the original vendor, I didn't go back to him after the initial virus experience.)

You, dear readers can probably predict the outcome, at least in part. So I'll cut a long story short and jump to the conclusion. The CD-ROM I received had seven bytes changed (over the entire CD-ROM. One of them was in a 50 MB archive which rendered that archive useless.

I notified the vendor of the problem. He offered to burn me another one (after destroying the first one without my consent). His second attempt also had a seven-byte discrepancy, which to my mind indicates a fault in his equipment or software.

When I again queried him about the CD, he told me, "Well, you are the first person to complain."

To which I thought, perhaps others place blind faith in the technology. Whereas I, having once been burnt, test every backup to ensure that it in fact does what it has been created to do. After all, how many shiny coasters do I really need?

Chapter six, in which our hero puts what he has learnt to work

Learn from my experience. Always test your backups to ensure that you can indeed restore your files. That's easy to do if you're testing a backup of a single file or directory. When you're talking about a CD-ROM backup of your entire hard drive, it's easier said than done, unless, of course, you have the assistance of the program I told you there would be more about later.

It's a batch file that uses tools that come with MS-DOS 5 and Win 95 (except perhaps QBASIC, although that can be dropped in from a prior version of MS-DOS). I developed, tested and have used the batch file with MS-DOS 6.22. I

have also tested it in a DOS window in Win 95.

The batch file compares every file on one drive, with the same file on another drive. It uses FC (the MS-DOS file compare function). It counts down as it goes through the files. When the process is complete, it produces a full report and a condensed report. It's written with the assumption that the two drives have the same directory structure. But you can give it a starting offset, and it will compare a subdirectory branch.

Where is this batch file, you ask? Its format makes it unsuitable for printing in *PC Update*, because of the length of the lines (in excess of 120 characters) and the size of the file. It's about 5 KB, which as you might imagine makes it vulnerable to typos. So instead I will upload the file to the Melb PC BBS as VERIFYD1.LZH. (Long-distance subscribers will need to wait to download it from the Melb PC web site when the magazine is uploaded).

Chapter seven, in which our hero shares one final bit of wisdom

Whether you back up to floppy disk, another hard drive, tape, Zip drive or CD-ROM, you should verify that data. Oh, and don't forget to scan the backup for viruses if the backup was done on a machine other than your own. You can skip that step if you use your own equipment because you always scan any new program prior to executing it. Don't you?

May your PC never fail. Enjoy! □

NO FEAR

When you use a SOLA UPS.
It protects your hardware **and** data
against spikes, surges, brownouts **and**
TOTAL POWER FAILURE.

Peace of mind.
2 YEAR WARRANTY
300VA power.

Now includes special software
(win 3.11, '95) & cable to monitor
and log ups & mains performance.
Full information available by, fax, post,
or, www.perthpcug.org.au/~terryf/

\$269.90 incl s/tax, you pickup.
or del to inner City burbs + \$10.

E.P.S. Electric Parts Supplies p/l
e-mail: terryf@perthpcug.org.au
ph:(08) 9472 9202, fax:(08) 9472 9203.
we accept visa, m/card, b/card.

ORDER NOW AT THIS SPECIAL PRICE!
other sizes available, just ask!

Technology and society

OPINION

Stephen Lake

Many observers suggest that society is changing at an increasing speed. What would once have taken years now may take weeks.

Technology has driven much of history's change: steam engines, printing presses, rockets and of course computers. But where are we heading, and what does the future hold?

Past predictions reviewed

The main problem with predictions is that they look into the unknown. Too many predictions are simply incorrect—see the media in December and January each year and check against reality a year later. This is not to decry the efforts of those predicting, but to highlight how hard it is to predict. Remember the paperless office? The reality is that too many offices drown in a sea of paper.

Technology will make life easier

How many people work more than 40 or 50 hours a week, and how many others cannot find work? The Internet is a source of information. Yet some companies now curtail Internet access to cut down on the amount of time spent sifting through junk e-mail and on other non-work activities. Information will give everyone an equal footing. But some people cannot afford or are otherwise unable to use technology, and others are drowning in a flood of often useless data that requires even more effort to analyse. The very technology that was going to free us from chores has become an insatiable beast that devours time, money, resources and people and delivers questionable returns. Constant upgrades, new systems and Internet/BBS/system complexities all come at a cost.

Information overload

Excessive information—much of it from technology-based repositories such as the Internet—contributes to stress. Decisions are delayed, due in part to the sheer volume and complexity of the information available. There seems to be a desire in Australia and elsewhere to obtain information. Anecdotal reports suggest that this information may not be used to the fullest extent, but that the mere fact of

having the information may be all that counts. Mobile phones were once the toys of power brokers—bankers, property managers and Collins Street executives. Now a mobile phone is a fashion statement. The conversation is often dross, but the connection is important; that is, actually talking to someone who is mobile.

Jobs

The very concept of a job is breaking down. The current concept dates from about 1800, when people went from the fields to the factories. In the fields, they worked according to the season and when there was enough food, they could stop. Field workers had to be able to repair fences, dig ditches, reap, sow, etc. But in a factory the amount of work required was no longer tied to the workers' needs, but the company's. Workers were subject to supervisors' rules and frequently did one task over and over again. After the industrial revolution, a job could be in an office, and in the 1990s it can be anywhere.

In some ways people seem to be returning to an earlier work environment, with more contractors, advisers, consultants, small businesses and home-based enterprises. These people may, subject to some constraints, work as they please. They may have to be a Jack-of-all-trades, frequently a Jill, turning their hands to a range of tasks, from writing letters, managing advertising, talking to the banker, meeting customers, answering the phone, keeping accounts, even making the morning tea. The bureaucracy once owned me: now I work from home as I please. Less income, but fewer hours, I don't starve, and life is far more enjoyable.

Jobs seem to be there for people who can do a variety of tasks. And for specialists. Either of whom may be core staff or sub-contractors. Increasingly, companies rely more on hired equipment, buildings, and much more. One company has only a handful of staff, yet turns over significant sums each year with a large number of sub-contractors, thanks to enabling technology, such as computers, modems, etc.

Jobs are changing in ways that are often strange. A manager has a typist, or

several managers share one or more typists. Or, with forced redundancies, managers may now do all their own typing, or have a subordinate do it. But rapid and accurate typing may not come easily to administrators or clerical workers, and output falls. Worse, instead of making decisions or processing information, the new typists are using word processors. Other organisations eliminate a management level, and former secretaries/personal assistants become managers, if not in name. Whole cultures are lost. Now at least a few of those who were advocating downsizing are recanting, citing long-term problems associated with smaller staff numbers.

New job openings

Some individuals are fortunate to be able to tap the technological revolution, and fill gaps, usually of a service nature, that did not previously exist. Each change opens new opportunities, such as network administrators, home page designers, software advisers, and IT consultants. But these are tasks for the educated, for people with post-secondary qualifications, usually a degree. A courier isn't necessarily a specialist in facsimiles. There are even new openings in crime: cracking, fraud, high-tech industrial espionage and white collar crime. This of course leads to an opening for those who catch them (or not) such as computer literate police, company security staff and Alsations.

It has been suggested that the new technologies will create jobs, but few tangible results are evident when unemployment figures are released. It is unclear the degree to which technology has led to the current, high level of unemployment. Anecdotal evidence at least suggests that factory workers will not find it easy to work in the booming service sector. Their skills are often different from those required in a service industry. Education will continue to be an important factor in success. Yet some governments are cutting back quite ruthlessly, and educators often are unable to agree on the best sort of education, or even how to measure success or failure. In rich schools, laptops make students' life easier. Less affluent schools cannot afford these tools/toys, and their students

are under-represented in tertiary institutions and higher paid jobs. We seem to have entered the age of information rich and information poor.

Productivity increase

Technology has enabled organisations to achieve far greater productivity than was the case ten years ago.

Facsimiles do not need couriers, and EFTPOS does away with a cheque and the people who used to process them. So people are eliminated from organisations, in part due to technology. This affects the bottom line for the company: lower wage expenses for a fewer workers. But people without jobs may have a small—or even no—income, and this means less to spend on goods and services—including those goods and services produced by the companies that made them redundant. Like the boiling frog, we seem to have become used to 8%—or higher—unemployment. Menzies may have lost office for such a figure.

Productivity is apparently increasing. But 30 years ago we had something like full employment. In 1997, with perhaps 8% unemployed, should the unemployed be included when calculating output figures? If so, is our productivity really increasing? And what of the punishing hours for many, not to mention unpaid overtime?

Service society

We have moved from a society that buys goods to one that buys services, a move predicted as long ago as the early 1980s. But there is a limit to the application of technology. People must still make roads, clean laundry, make decisions, use judgement, harvest wheat, and drive trams. The technology enables us to do these tasks in different ways—some of them better—and make faster decisions based on better information.

New sonar locates fish in the ocean faster than could be done ten years ago. But is it better that our oceans are at crisis point? The new public transport ticketing system will take Melbourne into the twenty-first century, but are machines better than a staffed station at 11 pm?

Technology is also affecting governments in a way that was unforeseen a few years ago. The Internet enables a consumer to purchase without money changing hands, at least through conventional channels in conventional ways. A company may exist only in cyberspace, with managers scattered around the globe. The tax ramifications of these transactions are unresolved.

Trendsetters

California has been the source of many concepts and trends for the second half of the twentieth century. Silicon Valley has shown the way for some of these.

Ten years ago Silicon Valley workers were young, well educated, highly paid, and worked long hours. Their personal relationships soured, with a high level of divorce, and children who grew up not really knowing their fathers. There was no infrastructure, no social amenities. Workers were often burnt out by age 35 or 40. Technology is often regarded as clean, but it ruined the environment, from poisoned groundwater to poor air, the latter largely a consequence of the motor vehicle. There was a high level of miscarriages, birth defects, child deaths and cancer. Could this be where we are heading? How much is technology to blame, and how much is a consequence of human development?

Privacy

Many people regard privacy as a basic right. Yet large organisations can track you, from cradle to grave. Perhaps the simplest examples are EFTPOS units and credit cards. By analysing your shopping habits, companies can determine which age bracket you and other members of your household are in—do you buy baby food, kids toys, teenage magazines, etc. They can track how much you spend. Where you spend it. How often you spend. It should be possible to identify, say, a 35-year-old advertising executive with two children under age four who lives in Mulgrave. There is nothing necessarily sinister, about this. But the idea of an Orwellian Big Brother watching does not amuse me. I pay in cash.

Technology and ethics

Technology is good when it enables us to do tasks better and easier, or achieve that which would be otherwise unachievable. Technology should not be considered in a vacuum, because our children and their children will have to live with the consequences. The ethical implications of implementing technological changes may perhaps one day be discussed and considered, much as Environment Impact Statements have become mandatory.

Even so, there is no guarantee that governments or decision makers will get it right. Witness the destruction of biota that is compromising our small but important bio-pharmaceutical industry, which relies on a diversity of species. We could be killing off the cure for cancer, but with a species extinct, never know it. The loss does not show up on any balance sheet.

The overall effect of technology is hard to measure. Some individual aspects are easy to quantify, such as the balance of payments or current account deficit caused in part by purchases of overseas technology. Others are harder to quantify, such as people out of work and the social ramifications of divorce, youth unemployment, etc. These existed long before even the transistor was

invented, but could perhaps be exacerbated by technology. It is hard to tell with any certainty.

Perhaps it is time to consider what we need from new and better technology. Is it less expensive to stay with current levels of computers technology and save the costs of upgrades and new versions? I wrote this article using a DOS-based word processing program. It still works—and will continue to work for many years—but I have to use Windows to print it!

I am not arguing from a Luddite-like stance, but advocating a re-appraisal of constant change, which does not necessarily achieve a great deal more, but always comes at a cost. I have three spreadsheets and an accounting package, but I track my household expenses in a very old school exercise book. It is simple, it works, and I can get it in five seconds at any time, even when the PC is off, which is most of the time. My approach is to use the power of the Pentium and the latest version of my chosen software—but only if I need it. As it happens, I am upgrading my PC soon, but only because it has grown unworkable with too many GUIs to shift and too much data to maintain. For me, it is not enough to get the latest because it is the latest—there must be a demonstrated need.

We seem to be developing a culture of “must-have,” the latest software, with the increasingly powerful chips to drive it. Perhaps time to review this mindset, ask why and see where it is all leading. □



by cartoonist Rob Pickford

About the artist

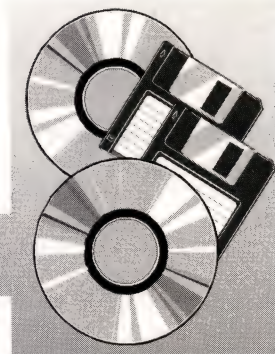
Rob Pickford (pickford@ren.netconnect.com.au) is a long-time Melb PC member with an interest in computers, writing and cartoons. He currently lives in Stawell (three hours out of Melbourne) and enjoys the benefits of country life (like mark-up and STD.) His ambition in life is to master the art of “hanging inverted in a tree, sleeping 23 hours a day.”

More of his work can be seen on his home page at <http://www.netconnect.com.au/~pickford>

Shareware/Freeware library update

TRY BEFORE YOU BUY

Glenn Webster



Updates

Melb 2536

Morse Code Made Easy v4.1 (DOS)

Morse Code Made Easy is a complete menu driven Morse Code learning tool that enables the user to set the pace. The three major modes are lessons, practice and word list. You can change the tone, the number of words per minute, the number of characters sent at a time, and whether or not the characters are displayed as they are sounded out on the computer's speaker. It tracks your progress and displays a score based on the level of difficulty at the end of each lesson. This update provides a separate Help file that can be scrolled through and printed, and adds a reserved option to use the Ctrl key as a telegraph key. It requires an 80286 or later processor, DOS 3.0 or higher, 512 KB of RAM and a 101/102-key keyboard. A colour monitor and a hard drive are recommended. Regn US\$15.

Melb 2562

Power Typing Light for Windows v4.0

Power Typing Light is a typing tutorial program for both beginners and experts. It features 15 skill levels to set your own pace, three system reports to track your progress, and an on-screen graphic keyboard for basic drills. Even experienced typists can improve their typing speed and accuracy through the structured lessons. The system has various activities to challenge your skills and is fully menu-driven. Reports highlight speed, accuracy and weak keys. Power Typing Light begins with finger placement and basic keyboard drills and progresses through a series of practices and tests, which are grouped to help you master the basic skill of touch typing, at your own pace. The program uses names to record and check the progress of each typing student. This version contains many minor improvements, particularly to the lesson timing and the recording of results. Regn US\$16.

Melb 2580

PC Desk v6.3

This versatile DOS program helps you to organise your time. It generates Yearly and Monthly Calendars, a Weekly Schedule and a Daily Planner to which you can add memo notes. You can also maintain multiple Address Book data bases. The program also includes an Analog Clock. On-line instructions are provided and many features of the program can be customized. A separate CGA text version (80 column by 25 line) is included with PcDesk for use on PC compatible Palmtop computers. This update enhances the main screen graphics to support VGA, provides customising of the Address Book data fields and has several minor improvements to the Memo Editor, Address Book, Daily Planner and help screens. PC-Desk requires an IBM compatible computer with an EGA or VGA colour monitor. A mouse is recommended. Regn US\$25.

Melb 8001

FRACTINT v19.5

FRACTINT plots and manipulates images of "objects"—actually, sets of mathematical points—that have fractal dimension. These sets of points are generated by relatively simple calculations repeated over and over, they are infinitely complex, and they can be astonishingly beautiful. The demonstration file included with the disk will show some of the features of FRACTINT. FRACTINT works with many adapters and graphics modes from CGA to the 1024 x 768, 256-colour XGA mode. Even "larger" images, up to 2048 x 2048 x 256, can be plotted to expanded memory, extended memory or disk. This bypasses the screen and enables you to create images with a higher resolution than your current display can handle. You can also run in the "background" under multi-tasking control programs such as DESQview and Windows 3. Some of the changes in this version of FRACTINT include major bug fixes and the addition of new comments parameters, new parser constants, a consistent rounding function for all modes and many other additions.

Melb 8402

CompuPic for Windows v1.50

CompuPic is a quick and easy-to-use multimedia manager/viewer utility. The program has an intuitive user interface combined with features that will help you to manage your multimedia files. Some of the features include viewing whole pictures or thumbnails, a slide show creator that enables you to use MIDI music files, instant zoom, cropping, image enhancement utilities and printing. CompuPic provides support for AVI, BMP, DIB, FLI, FLC, FLX, GIF, HLP, JPEG, JPG, MIDI, MOV, MPEG, PCC, PCD, PCX, PhotoCD, PNG, QuickTime, RLE, RMI, Text, TGA, TIFF, Wallpaper and WAV files. This version has added support for more file types. It needs Windows 3.1 or later. Regn US\$40.

Melb 8438

GeoClock v7.3

GeoClock shows the current time (based on the system clock) with a map of the earth. The current sun position is displayed and the parts of the earth in sunlight and twilight are highlighted. Local sunrise, sunset, and the sun's azimuth and elevation are also displayed in real time using your system clock. It includes support for Orthographic projection (view from space), Sun rise/set, Sun Az/EI, and Sun position information on Equidistance-Azimuthal and Orthographic maps. You can customise the program for both your location (by picking from a list of over 3400 cities) and your hardware. A comprehensive set of over 200 up-to-date VGA maps is available on registration. This version adds a revised MAPCENTER command to enable maps to be centered on the current sun position, a separate clocks window that can show the current local time for user-selected cities anywhere in the world, and a wide variety of other improvements. Regn US\$35 with a basic map set. Supplemental map sets (with greater detail) are available from US\$20 each to US\$40 for four.

Melb 8455

DeltaCad v2.3

DeltaCad is a powerful, easy to learn CAD (Computer Aided Design) program designed to meet all of your CAD needs. It can produce accurately scaled architectural or mechanical drawings, or just pretty pictures to paste into your favorite word processor. DeltaCad is more than just a paint program, because you can edit, scale, move, rotate, copy, etc. individual objects, not just point pixels. DeltaCad allows you to zoom in to draw fine details or zoom out to see the whole drawing. DeltaCad includes a simplified user interface to make it easy to learn and use, and contains on-screen instructions to guide you with a context-sensitive help system. New features have been added to this version. It requires an 80386 or faster processor, 4 MB of RAM, 1.4 MB of hard disk space, Win 95/NT and a mouse. Regn US\$50.

Melb 8459 Sound Gadget Pro v1.0.5

Sound Gadget Pro is a sound editor for Win 95 and NT. Sound Gadget Pro enables you to read WAV, VOC, AU and SND sound files. You can then change the format of the file, use some special tools on it, such as fading, stereo panning, amplifying, recording, and reversing channels. This version adds support for the new features in the Win NT 4.0 operating system. It requires Win 95 or Ms Win NT 3.51 or later and a sound card supported by Win 95/NT. Regn £10.

Melb 8503

Icons Control v5.0A

Icons Control is the indispensable tool to process Windows icons. It can display up to 100 icons at a time. Icons can be viewed, copied, renamed, moved, and erased with a click of the mouse. Hard copies of icons can be printed on any printer supported by Windows. Icons Control can even display (but not extract) icons embedded inside DLL or EXE files. Registration provides BMP to ICO conversion, extraction of icons from DLLs and EXEs, access to image flip, shift, and rotate tools and the ability to capture any portion of the screen into an icon. The displayed icons can be edited, converted to bitmaps, or extracted to ICO format (in the DLL or EXE viewing mode.) Conversion and extraction can be done in batch mode, thus saving a considerable amount of time if you have a large number of icons to process. Requires Windows 3.1/95/NT 3.51, a VGA or better graphics and a mouse. A Windows-supported printer is optional. There is no evaluation period for using Icons Control. You may use it as long as you want but the extraction, editing and conversion functions are available in the registered version only. Regn US\$25. A 2,800-icon library is available for an extra US\$14.

Melb 8548 Peter's Many Things v5.0

Peter's Many Things for Windows is an organiser for managing scraps of information. If you find yourself with scraps of paper all over your desk from phone calls, to do lists, ideas, whatever, you will find Peter's Many Things a handy program to have. It has many ways of viewing your information, including

group copy, paste, delete and print windows. You may use 800 x 600 (large font) or 640 x 480 screen resolutions. You can switch between three separate "files" of 800 data items each. One-line pieces of information or "things" are arranged in a free form list that you shape according to your needs. Each data item is up to 80 characters across. With this version you may attach up to 10 full lines of text to each thing. These added lines are called a "note" and they can be searched and printed. Regn US\$20.

Melb 8606 My Personal Diary for Win 95 v5.60B

This diary program helps anyone and everyone to keep a private diary on a computer. The multiple user feature means that many users can share the program on a single computer but still keep independent diaries. All entries are stored in encrypted files and password protected to ensure privacy. Some other features of this program are a spelling checker, full support for text and paragraph formatting, margins, header, footer, fonts, styles and colours, text search (through your entire diary), a built-in address book and to-do list with reminder system and complete online help. My Personal Diary is an excellent tool for keeping track of day to day activities and recording the important events in your life. This version has an improved spelling checker, mail and export commands, multiple date and time formats and custom reusable strings. It requires Win 95. Regn US\$25.

Melb 8622 Labels, Cards and More v1.60A (for Win 95)

You can create labels, cards, envelopes and more, easily, with this program. It has many options and features, including pre-defined layouts for labels, cards, envelopes and full page displays. Its support for many clipart file formats, zoom commands and grid, makes alignment and detail work easy. Text may be rotated text in any size, font, style. There are "special" objects to link to data files for mailing lists, counters, quick addressing and personal information. You can print on anything, from labels to cards to tags, and even full page displays, on any Windows-compatible printer. The WYSIWYG editor supports drag and drop editing and sizing. This version has improved graphic handling and text alignment, support for metric measurement units and the complete set of Avery Template Layouts. Labels, Cards and More requires Win 95, a printer and a mouse. Regn US\$25.

Melb 8726 Becky! v1.10

Becky! is a multi-featured Internet E-mail client for Win 95. It has many of the features which should be expected of E-mail software and other features which you might not expect. Some of its features include a Windows Explorer-like look and feel, the ability to manage up to 10 mail accounts, (and switch to each of them quickly), and a powerful text editor. You can save incomplete messages in a "Draft Box" and you can send reminder messages to "yourself" for delivery at specified date. There is a spelling checker using both American and British English and MIME-compatible binary file attachments. A handy feature of the program is clickable URL and E-mail addresses. If a URL or E-mail address is found in an E-mail message, it is displayed in another colour. Double clicking a URL lets the URL activate in Netscape, and double clicking an E-mail address opens a compose window for the address. This version provides a remote mail box capability, support for UIDL, added commands and options, and other enhancements for filtering and reading mail. Becky! requires Win 95 or later, and a POP3 mail account. Regn US\$40 for personal use.

Melb 8782-8783 Drag and View for Win 95/NT v2.0 (2-disk set)

Drag And View enables you to view files without having to run the program that created them. You can view the files created by popular databases, spreadsheets, word processors and bitmapped or vector graphic programs in their native format. You can also view any file in hexadecimal or plain ASCII format. Files can be compared easily by viewing them in multiple windows. You can search for text in any file or a hexadecimal string in the Hex viewer. You can also go to any cell in a spreadsheet, any record in a database and any address in the hexadecimal view of a file. You can select all or part of a viewed file and copy it to the clipboard or print it. Graphics images can be rotated and saved in other bitmap formats. Drag And View includes a utility called Fileman Launcher which will run Drag And View automatically every time you run the NT File Manager. This version provides improved support for the Win NT 4.0 file system, the latest Office files, HTML files and is also a minor bug fix. Drag and View requires an 80386 or better processor and Win 95/NT (3.51). Regn US\$35. This program has been reissued as a two-disk set. The earlier version of the program, on disk Melb 8571, has been deleted.

Melb 8784-8785 Word Express for Windows 3.1 v2.00 (2-disk set)

WordExpress is a professional word processor in a fast, friendly package. Top of the line features include WYSIWYG editing, truetype fonts, the ability to set columns, import pictures, insert tables and much more. It is also great for small desktop publishing tasks too. This version is a major upgrade with many new features including email, fax, bookmarks and indexing. Requires an 80286 or faster processor, Windows 3.1 or later, 4 MB of RAM and 3 MB of free hard disk space. Regn US\$50. This program has been reissued as a two-disk set. The earlier version of the program, on disk Melb 8463, has been deleted.

New disks

Melb 2602 Tune!It v2.00

Tune!It is a program designed to tune musical instruments by using a microphone or directly connecting your instrument (with a pickup) to the PC's soundcard. Tune!It automatically detects the pitch of the input signal and displays the corresponding note and its deviation from standard tuning. As an option, it can display the spectrum of the input signal, from which the instrument's harmonics can be identified. Some of the other features include reference tones and ear training to improve your musical listening skills. Requires an 80486 or faster processor, Win 95 or later, a Windows-compatible soundcard and a microphone or instrument lead. Regn A\$20.

Melb 2603 Horas v1.8A

Horas is a Win 95 based program that enables you to display the times in upto several cities at the one time on the screen. It is fully customisable and you can use an analog or digital clock face, display the time in 24-hour format, show the name of the city, show the day in the city, and show the seconds. A time converter is also included. If, for example, a friend in Paris wants you to call him at 8:00am Paris time, you can enter the difference in time between Melbourne and Paris, and it will show you what the time will be in Melbourne when you need to call them. Horas requires Win 95 or later. Regn US\$10.

Melb 8786 Designer Envelopes v2.1G

Designer Envelopes creates envelopes and letterhead stationery using a drag and drop interface. You can add lines, pictures, text and rectangles to your layouts for envelopes and letterhead. You can use all of your Windows fonts and bitmap images. Menus include links to Paintbrush to create or edit images, cardfile for creating or importing text and addresses into layouts. An easy to use scaling utility allows you to fit layouts onto many envelope sizes. Works with colour or black and white printers. It requires an 80386 or faster processor, 2 MB of RAM, 1.1 MB of hard disk space, Windows 3.1 or later and a mouse. Regn US\$25.

Melb 8787 Adding Machine Editable Calculator v1.2

Easy Software's Adding-Machine for Windows is designed to replace the calculator for anyone who regularly adds columns of figures. However, unlike a calculator, Adding-Machine retains all entered figures so that you can see where you are in the list after an interruption and you can edit any figure which you have entered incorrectly. You can add a label to each figure, save the list to disk and print-out the list. You can preset each list for up to six decimal places and there are options to display or hide the currency symbol and thousands separator. The total can also be copied to the Windows clipboard for pasting into other applications. Adding Machine requires an 80386 or later processor, Windows 3.1, 1 MB of RAM and 1.3 MB of hard disk space. Regn US\$40.

Melb 8788 Modem Doctor for Windows v1.0

Modem Doctor for Windows brings the power of Modem Doctor for DOS in the Windows program environment. It includes over 60 tests of your modem and serial port. A built-in INI editor is included to allow you to easily change any communications-specific settings in Windows. Among its unique features are a detailed summary of the Windows COMM.DRV settings and capabilities, automatic detection of active serial/modem devices, report generation that saves all installed hardware settings and test results to a text file, extensive and detailed inter-active help file including how to test, setup, and "tweak" nearly every Communication parameter. Requires an 80386 or faster processor, 640 KB of RAM, a VGA or better video card and monitor, Windows 3.1 or later and an AT-Compatible modem for diagnostics. Regn US\$25.

Melb 8789 Odyssey for Windows v2.00

Odyssey for Windows is a communications program complete with faxing capabilities, various Terminal emulation modes, built-in file transfer protocols, powerful scripting language and script compiler and the ability for multi-file transfer. Requires Windows 3.1 or later, 4 MB of RAM and a Hayes-compatible modem. The is a 45-day evaluation version. Regn US\$85.

Melb 8790 Advanced English Tutor v3.3

Advanced English Computer Tutor (AECT) is a tutorial that interactively teaches you the subtleties of the English language. The program is useful for those who know the language and yet find certain aspects of it somewhat puzzling. AECT highlights many of the hard and tricky aspects of English and improves your speech and writing skills. It requires DOS 3.1, Windows 3.x or Win 95 and 500 KB of free hard disk space. Regn US\$66. An intermediate version of this tutor is available on disk Melb 2595.

Melb 8791**Pretty Good Privacy
for Windows v4.1**

PGP (Pretty Good Privacy) is a Windows version of the popular DOS public key encryption package. It contains all of the features of the DOS version, with some added parts. With it, you can secure messages you transmit against unauthorized reading and digitally sign them so that people receiving them can be sure they come from you. It lets you communicate securely with people you've never met, with no secure channels needed for prior exchange of keys. You must read the enclosed documentation before use. Even if you are already familiar with public key cryptography, it is important that you understand the various security issues associated with using PGP. It has excellent user documentation. Requires Windows 3.1 or later, 4 MB of RAM and a mouse. Regn US\$30.

Melb 8793**Cuisine SE v2.0
(Win 95/NT)**

Cuisine is a powerful, easy-to-use recipe database and meal planning system. It has a familiar "recipe card" display and a simple interface that enables the quick entry and indexing of hundreds of recipes. You can store recipes under various categories in multiple cookbooks, group a series of recipes together into a single meal and adjust the number of serves. As you add recipes to your meal, the ingredients are automatically appended to your shopping list. Cuisine comes with over 60 built-in recipes. It can import and export text files (in either Cuisine or Meal-Master 8.0x format). Some other features include print preview, context-sensitive help and bookmarks. Cuisine requires an 80386 or later processor, 2 MB of RAM and 650 KB of hard disk space. The 16-bit version requires Windows 3.1 or later, while the 32-bit version requires Win 95/NT 4.0. Regn US\$25 for either version.

Melb 8794**Holiday Lights v2.2**

Holiday Lights places a string of Christmas lights across the top of your Windows desktop, and has many options to give the lights a true Christmas look. You can choose the way that they flash, such as random, chasing, alternating, none flashing and all flashing at once. The colours of the lights can be random, all red, all green or multi-coloured, and you can have some bulbs burnt out or broken (just like the real thing!). An event calendar may be configured so that you are notified of upcoming holidays. Requires Win 95 and works with any video display driver.

Melb 8795**NuMorse v1.30**

This program is a Morse code training aid. It is used to achieve user proficiency in receiving code. This is a requirement of the amateur radio licensing authorities in most countries. The program generates accurately timed Morse code in the Windows operating environment. In the early stages of learning, it can play as slowly as required. Once basic proficiency is obtained, sending speed can be increased up to and beyond the level required by the users local regulations. NuMorse supports sound cards and has the capability to mix speech and Morse code. Detailed statistics on a user's performance can be gathered. Requires Windows 3.1 or later, a mouse and a sound card. Regn US\$29.

Melb 8796**CuteFTP v1.7 (16-bit)**

CuteFTP is one of very few programs that allow novice users to utilize the capabilities of FTP without having to know all the details of the protocol itself. The strongest point of CuteFTP is its ability to

gather almost every available bit of information about files and directory structure of a remote system and present it to the user in an easy-to-use file manager style browsing screen. CuteFTP will also keep data transfers to a minimum by means of storing all the data it can to a temporary file. Requires Windows 3.1 or later, a WINSOCK Version 1.1 or later dialler program and 2 MB of RAM. Regn US\$30.

Melb 8797**SmartSurf Online
Usage Monitor v1.10**

SmartSurf Online Usage Monitor is a program designed to automatically monitor online usage and costs. It works with all on-line services. The program features a real-time display and can generate reports and analysis of time usage. It understands most charging structures and different charging times. Requires an 80386 or faster processor, 2 MB of RAM, 500 KB of hard disk space, Windows 3.1 or later and a modem. Freeware.

Melb 8798 World Clock for OS/2 v1.53

World Clock is a multi-city time display clock for OS/2 Warp. World Clock can display from one upto twenty-four clocks. You can select the city or location around the world for each clock. World Clock takes the time from your computer's internal clock. Choose from over 550 cities or build you own city list. Requires OS/2 Warp 3.0 or later and a VGA or better video card and monitor. Regn US\$25.

Melb 8799**Collect! v3.0**

Collect! is a system that allows you to work with collections of any type. It enables you to easily "program" your own collection information in just a few minutes by using templates. This way you can define not only what to record but how to record it. Collect! even comes with pre-defined templates for 15 different types of collections including: Coins; Stamps; Comics; Antiques; Sports Cards; Software; Books; and Movies & Videos. The database portion of Collect! enables you to work in the hobby (i.e. cataloging) frame of mind, whereas the financial portion enables you to study the investment strategy of your collection. Collect! supports text-based note files and binary files for graphics, pictures and sound. Some of its other features include user-defined reports, the provision of statistical and financial information (including 5 types of graphs) and the selection of and working with different subsets of your data. Requires an 80386 or faster processor, Win 95, and 1.5 MB of hard disk space. Regn US\$40.

Melb 8800-8801**Everything I Own!
v1.5 (2 Disk Set)**

Everything I Own! is a Household Inventory Program for Win 95. It can be used to keep track of every item in your home or collection. Your data can be filtered and sorted before being displayed on the screen or being printed in one of the many reports available. Everything I Own! has a very handy "Backup to Floppy" and "Restore" facility. The program is very easy to learn and to use. In the event of theft or disaster, "Everything I Own!" could become the most important program on your computer. This assumes that you have a current backup of both the program and the data files kept at a location outside your home. Requires an 80486 or faster processor, Win 95, 8 MB or RAM and 6 MB of hard disk space. The registration fee (US\$25) will grant a lifetime usage license for one copy of the program for use on any one computer at any one time.

Melb 8802**Home/Office
Inventory Book v4.2**

Home/Office Inventory Book is a tool for organizing, planning, and keeping track of your home or office contents. You can gather as much detail as you may need, and place it under categories like: item name, producers, location, warranty time, value, service phone, notes and other areas. There is no limit to the number of entries you can put in, and each record is automatically sorted. A full search engine is built in, as well as sorting, filtering, printing, summaries, graphs and report generators. Requires an 80286 or faster processor, 2 MB of RAM, 400 KB of hard disk space and Windows 3.1 or later. Regn US\$15.

Melb 8803**Rockford v4.0**

Rockford is a business card maker for Windows. The program allows you to use various fonts, clip art and line drawing tools to create fully customised business cards. Up to two images may be imported for each card, either being of BMP or PCX origin. Full support for colour printers and varying business card sizes is included. Requires an 80386 or faster processor, Windows 3.1 or later, a mouse, 2 MB of RAM, 2 MB of hard disk space, a VGA or better graphics card and monitor and a Windows-compatible printer. Regn US\$20.

Melb 8804**TextPad v2.3**

TextPad is designed to provide the power and functionality to satisfy the most demanding text editing requirements. There is no limit on the file size that may be edited. The 32-bit edition can edit files up to the limits of virtual memory. This is explained in more detail in the on-line help documentation. It will work with Win 95, Win NT 3.51 or later and Windows 3.1x with Win32s extensions installed on your system. TextPad requires an 80386 or faster processor, 1 MB of RAM, 2 MB of hard disk space and Windows 3.1x, Win 95 or Win NT 3.51 or later. Regn US\$35.

Melb 8805-8806**MusicEase for
Windows v5.01 (2-disk set)**

MusicEase is a music score editor which enables you to create, edit, play and print music notation. It includes a WYSIWYG screen-oriented editor so that you can see the musical score exactly as it will be printed. MusicEase also provides MIDI I/O facilities and it can import a variety of standard music-format files. It supports Windows-installed printers and sound cards. It requires an 80386 (or later) processor, Win 95/NT (or Windows 3.x with 32-bit extensions), 12 MB of Extended RAM and 4 MB of hard disk space and VGA graphics. Regn US\$79.

Melb 8807**Piano Professor
for Windows v2.5**

Piano Professor for Windows was designed to help you learn how to read music. Among its features are five areas of in-depth discussion and education. The Note Tutor teaches the student how to read music and identify the corresponding keys on the piano keyboard. Chord Encyclopedia is a full complement of over 450 chords using sight and sound. Key Signatures Screen shows the many keys that music is written in. Name that Note helps you to recognize notes by sound and train your ear. Keyboard Teacher aids the beginner by explaining the basics of the piano keyboard. All areas and the program in general contain a detailed help system. It requires an 80386 or faster processor, 8 MB of RAM, Win 95 or later and a sound driver for your PC (either sound card or PC Speaker). Regn US\$29.

Melb 8808**Sweet Sixteen
MIDI Sequencer v2.65D**

Sweet Sixteen is a comprehensive and powerful MIDI sequencer for the Windows environment. Sweet Sixteen offers Piano Roll, List and Transform edit pages as well as a dedicated Mixer page you can use for your favourite synthesizer. Requires Windows 3.1 or later, 4 MB of RAM and a Windows-compatible sound card. Regn US\$50.

Melb 8809**WinSpeech v3.0N**

WinSpeech is a text-to-speech reader for Win 95 or Win NT 4.0. WinSpeech reads text and reproduces speech to a Windows-supported sound card or PC Speaker. In File mode, the program will read TXT or WRI files. In Clipboard mode, it will add speech to other Windows programs. Using the DDE mode, it can be used as a speech engine for other programs to render text via DDE. And using Command mode will read files at startup. Help is available throughout the program as Audio. It is fully customizable, and it allows custom dictionaries and different voice fonts, as well as changes in pitch and speed adjustments. Requires Window 95 or Win NT 3.51 or later, 8 MB of RAM and a Windows-compatible sound card for Win NT. Regn US\$40.

Melb 8810**Rescue 95**

Don't spend hours reinstalling Win 95 when Rescue 95 can restore it in less than 2 minutes. If for some reason, the Registry of Win 95 gets corrupted, run Rescue 95 to fix the problem. If you can not get into Win 95, there is a DOS version of Rescue 95 that will do the repairing from outside of Win 95. As an added precaution you can use Rescue 95 to periodically make up to ten different backups of the Registry files. Requires Win 95 or later and free hard disk space. Regn US\$24.

Melb 8811**WinGate
for Win 95 v2.0B****Melb 8812****WinGate
for Win NT v2.0B**

WinGate is a multi-protocol proxy server and general purpose Internet connectivity tool. Set up correctly, WinGate will allow users on a Local Area Network (LAN) that is not directly connected to the Internet to access the Internet via a single machine on the LAN which is connected, either via a dial-up modem / ISDN connection, or second Ethernet interface. WinGate can save you money by removing the need to get a separate dial-up account, with phone line and modem for each user that wants access to the Internet. Now they can all use the one link, at the same time. Requires Win 95/NT 4.0 or later, 8 MB of RAM, 2 MB of hard disk space, a modem or ISDN connection to an ISP and an Internet account. Regn US\$60 for a 2-user license. Other combinations are available for more users.

Membership

Do you have problems thinking of gifts for family, friends or colleagues? The next time you're stuck, why not give them memberships in Melb PC?

PC Update, BBS, SIGs, Training, Internet, Dial Help, Monthly Meetings, Shareware, First Aid... all this and growing. Anyone who uses a PC will benefit from membership of Melb PC.

Melb 8813**AniDesk v2.0**

AniDesk is a simple program that shows a small animation in a corner of your desktop window. You can let it work in the background and it will display the animation always in the foreground with any Windows application. It is a useful way to monitor your systems response times, and the animation will stop when the system locks up. The program uses very little system resources and very little processor time. It can be used to play a customised logo of your company on company PC or on PCs you sell to customers. Requires Win 95 or later, 4 MB of RAM and a VGA or better graphics card and monitor. This program is EMailWare.

Melb 8814**BlackBoard PicVu v2.2**

BlackBoard PicVu is a unique picture viewer. It has file support for .JPG, .GIF, .BMP and .PNG file support. Support for various functions during slide shows has been enabled in this version (such as delete, rename and move files, and the ability to go backwards and forwards through the images during the slide show). Requires Win 95 or later, 8 MB of RAM and a mouse. Regn US\$20.

Melb 8815**GIF Construction Set
(32-bit) v1.0P**

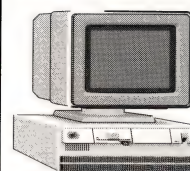
GIF Construction Set for Windows is a powerful collection of tools to work with multiple-block GIF files. It will allow you to assemble GIF files containing Image blocks, Plain Text blocks, Comment blocks and Control blocks. It includes facilities to manage palettes and merge multiple GIF files together. Among its other functions, GIF Construction Set for Windows can create looped GIF animations for Netscape, create transparent GIF files, create interlaced GIF files, add, edit and delete comment blocks, create multiple-image GIF files, serve as a full Windows GIF viewer application, and be a GIF viewer "helper" application for a World Wide Web browser or Mosaic client. GIF Construction Set for Windows requires a minimum of 4 MB of RAM, an 80486 or faster processor, and Win 95 or Win NT 4.0 or later. Regn US\$20, and a 1800 phone number for registration within Australia is included.

Melb 8816**Microsoft Camcorder**

You can use Microsoft Camcorder to record actions, procedures, and sounds that you perform on your computer. You can save the recording as a movie that you can then play in Camcorder, or you can save the movie as a standalone program that you can send to others to play, even if they don't have Camcorder. For example, you can use Camcorder to create a computer tutorial that you can send to others to use. You can set preferences for movies that you record, such as the keys to use to stop recording a movie, the quality of the sound you record, and whether to show Camcorder in front of open programs. Requires Win 95 or later, 8 MB of RAM, a sound card and a mouse.

Melb 8817-8818**Page Focus v4.0
(2-disk set)**

PageFocus is an innovative Windows package that can be used for creating drawings, forms, documents, databases and applications. Some of its many features include extensive graphic, field, and table objects; powerful, yet easy-to-use tools; hyper-buttons for documentation navigation and command use; and a data view window for managing databases. PageFocus requires an 80286 or faster processor, Windows 3.1, 4 MB of RAM and 4 MB of hard disk space. Regn US\$29. □



HUGE COMPUTER SWAP MEETS

Sunday 1st June

Choice of two Swap Meets

MALVERN TOWN HALL

cnr High St & Glenferrie Rd

or

ROYAL MELB. SHOWGROUNDS

Epsom Rd, Ascot Vale

Sunday 8th June

Choice of two Swap Meets

COLLINGWOOD TOWN HALL

140 Hoddle St, Collingwood

or

BOX HILL TOWN HALL

1022 Whitehorse Rd, Box Hill

Sunday 15th June

CAMBERWELL CIVIC CENTRE

340 Camberwell Rd, Camberwell

Sunday 22nd June

SPRINGVALE CITY HALL

397 Springvale Rd, Springvale

Sunday 29th June

MOORABBIN TOWN HALL

985 Nepean Hwy, Moorabbin

Everyone welcome to Buy — Sell — Exchange
9am to 5pm, Entry \$2.50, stands from \$6.00.
For details phone (03) 9886 1466

TEXT & GRAPHICS

Scanned for
IBM and Mac

RUBBER STAMPS
Bulk Copy Specialists
Full Color Copies
Laminating
Binding / Books.

COMPSCAN

1223 Malvern Rd. Malvern 3144
Ph: 9822 6403 Fax 9822 9836

Cleaning up the sound of old records using DCart

COMPUTERS AND MUSIC

Douglas Lorimer



Figure 1. DCart's program group and icons.



Figure 2. The welcome screen.

Info Box

DCart

Minimum system requirements

- A 486 DX (with math coprocessor)
- A 16-bit stereophonic sound card with line-level inputs, or a "Digital Only" card.
- 8 MB of RAM
- Windows 3.1
- Mouse and colour monitor.
- A hard disk with enough space to accommodate your .WAV files.
- An audio source.
- An audio reproduction system.

Availability and cost

Diamond Cut Productions
Ph: 0011 1 201 316 9111
Fax: 0011 1 201 316 5098
or via the web page at
<http://www.diamondcut.com>

RRP: US\$59.95, add US\$10 for disk containing manual (postage extra.)
Alternatively download the manual, free, from the web site.

How do you play your old 78s? Do you use a good acoustic gramophone with a finely-tuned sound-box, and only the best fibre needles? Or do you prefer electrical reproduction, using a light-weight pickup using miniature thorn needles (if you can get them?) Or do you use the latest hi-fi equipment, with specialised filters and graphic equalisers? Or do you take the easy way out and buy old recordings on modern CD transfers, and hear them as no-one could possibly have done at the time they were made?

Maybe, like me, you use some or all of these methods, but if you have listened with interest to the growing number of historical CD transfers, and you have paid attention to the small print on their booklets, you will have seen that the great improvement in restoring old recordings is usually due to some kind of computerised processing.

The best-known of these is CEDAR, and there is also the Philips *No-Noise* system. Results with these methods can be spectacularly good or, sadly, sometimes spectacularly bad. Another method of restoring old recordings comes from Diamond Cut Productions, whose methods can be heard on some of the transfers of Edison lateral-cut records, which are available from CLPGS. These are excellent transfers, and if you are wondering how they are done, now is your chance to find out, because Diamond Cut Productions have made their method available to us as a computer software program.

So, drag your child away from the computer, switch off the latest game of *Doom* or *Duke Nukem*, forget about *MS Golf*, and settle down to some really interesting computer time.

DCart is an acronym for Diamond Cut Productions Audio Restoration Tools. Its needs are listed opposite.

If you have a modern (less than two-year-old) multimedia computer, then that should take care of the first five items. The specification given here is an absolute minimum, and any older PC would need some upgrading. My own machine just meets this minimum specification, and I have run into both space and memory problems, but these

**quite intuitive,
and certainly can
give fine results**

are not insurmountable. A machine with a large (1 GB or more) hard disk, 16 MB of RAM, and Windows 95 installed, would run DCart much more easily.

If you have a smaller hard disk, then it would be advisable to get rid of any programs you don't really need—there goes *MS Golf*!—so that you have around 250 MB of space left. With a little effort, this should leave enough space to run DCart. The actual DCart program occupies only 2 MB of disk space.

The last two items in the list could be the most difficult thing to achieve.

It is a lucky person whose PC is right beside the hi-fi, and a possible solution would be to record items (preferably in stereo) on a portable cassette machine, and plug that into the computer's sound card. Another thing to remember is that a computer sound card usually uses 3.5 mm sockets (as found on most Walkman-type equipment) so you may need to buy special connecting leads.

The first thing to do is to install DCart. This is very easy, as the installation is done using an Install Shield Wizard, which gently takes you through the various stages, and creates a program group and an icon for DCart on your desktop. The program seems to be designed primarily for Windows 95, as when installed under Windows 3.1, I found error messages appeared when I tried to access the help menu from the desktop icon. (The full help menu is available from within the program in either version of Windows, so this is not a problem.) The help menus really do offer a lot of information, and as there is no manual (an excellent way of cutting costs) the best thing is to print them out. This involves quite a lot of reading, and do read them before starting—they are compulsory reading.

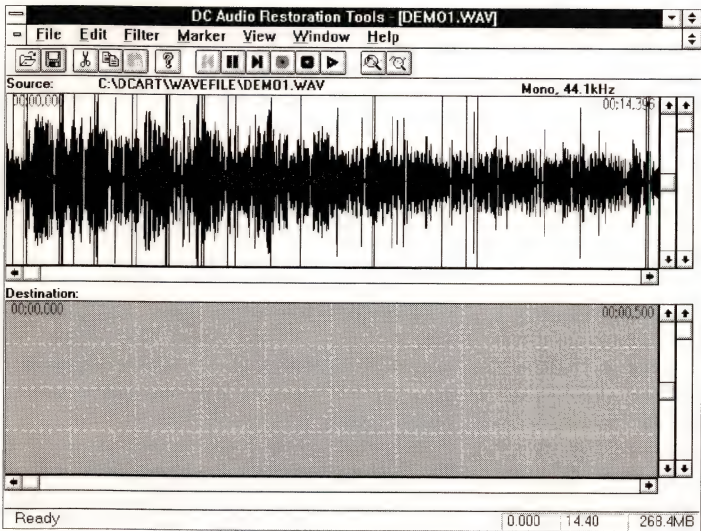


Figure 3. The file, recorded using DCart, is ready for processing

What does DCart do?

When you open a new file, a record dialog box appears. On this you can select mono, stereo, and the Sample Rate (44.1 KHz, 22.05 KHz or 11.025 KHz). The higher the sampling rate, the better quality recording you will get. Unfortunately the higher the sampling rate, the more space will be taken up on your hard disk, and the more processing time will be involved in each stage of restoration. So you have to decide what is best for your requirements. Then all you have to do is play your 78 and record it (preferably in stereo) onto your hard disk. You can check immediately by clicking on the *Play* button on screen to see if it has recorded properly. Some adjustment of volume may be necessary, so that input and output appear to be at the same level.

Now the fun really begins. The help files give a very thorough list of what to do when restoring 78s. This includes instructions on cleaning your records,

setting up pre-amplifiers, verifying speed, choosing correct styluses—they even talk about half-speed mastering! At this stage you convert the original .wav file you have created to a mono signal. You can choose **L** or **R** (if one groove wall is more worn than the other), **L+R** (the conventional way, equivalent to the mono switch on your amplifier), or **L-R** (if it is a hill-and-dale recording).

Next you can filter out *Rumble*, using a *High Pass Filter*.

The next stage is the *Impulse Filter*, to reduce clicks and plops. There are many variables in this process, and it is very easy to overdo things, so make good use of the *Preview* facility, available at all stages of the process, to check on what you are doing.

Now you can *Decrackle* the recording, removing the gentle crackling sound which is such a nuisance on many 78s of the 1920's and 1930's.

Next comes *Debiss*, which can remove the hiss found on earlier records.

This involves the use of a *Continuous*

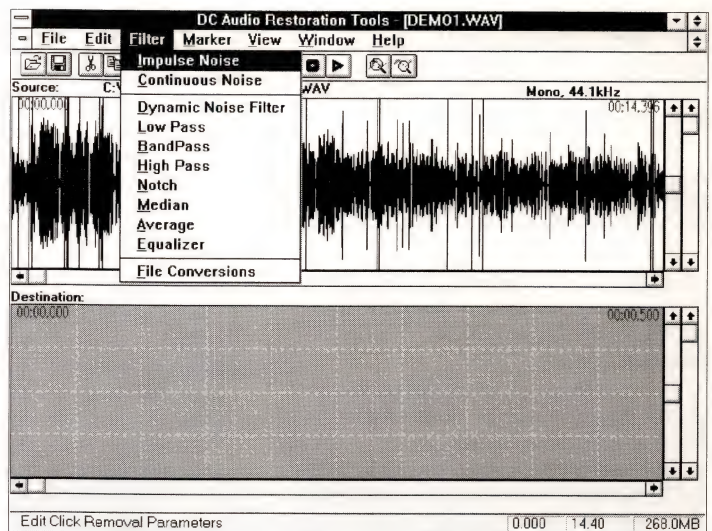


Figure 4. Choosing the Impulse Filter from the filter menu.

Noise Filter. You sample the surface noise at the beginning of your recording, analyse that, and the program will attempt to remove the noise you have sampled from your recording. This involves a lot of computer work, and one three-minute side can take 15 minutes to process.

There is an opportunity to use a *Notch Filter* to remove any hum on a recording.

If you wish, you can give the result a more professional sound, by fading-in and fading-out your recording, thus avoiding an abrupt start and stop.

Lastly there is a very efficient ten-band graphic equaliser, which you can adjust to your own preferences. As an equaliser of this quality would cost many times the price of DCart, this feature alone would make this program worth the money.

There are many other features in this excellent little program—all I can say is, try it for yourself.

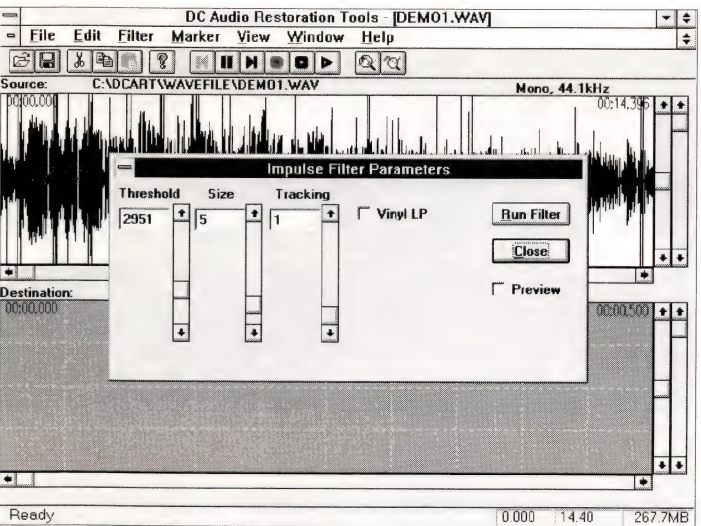


Figure 5. Setting up the Impulse Filter.

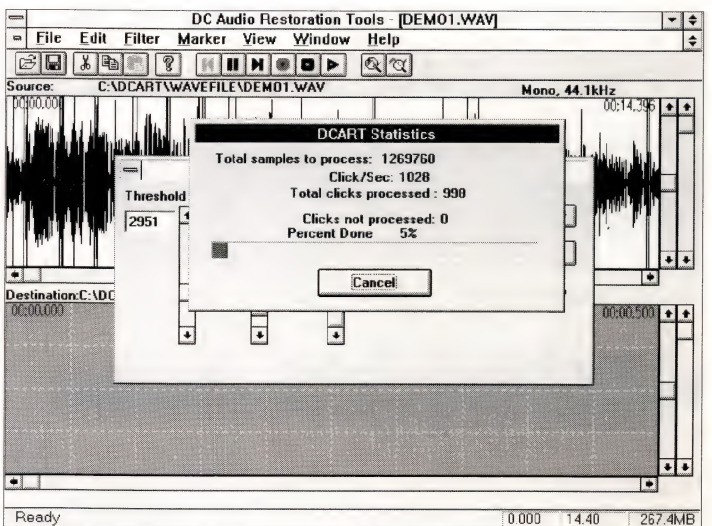


Figure 6. The filter in action. Note running totals

How well does it work?

DCart is not the only sound editor available to the PC user, and so we have to compare it with rival programs.

Most Sound Cards come with software which includes a .WAV file editor. Creative Labs provide an excellent one with their SoundBlaster cards. But all you can do is edit files—no form of noise reduction is available. You can also get (often free with CD-ROM magazines) facilities for playing .WAV files, with no editing facilities at all.

PC magazines (and the Internet) are also a good source of demonstrations of various programs, made by the software manufacturers to entice you to buy the full programs. I have discovered quite a few .WAV file editors in this way (and I am sure that there are many more).

Turtle Beach have *WaveLite*, which is only a simple .WAV file editor. They also have *Wave SE*, which has more facilities, including *Cross-fade*, which can be used to join together two .WAV files. (We would want this for joining together 78 rpm sides, as in classical recordings.)

Goldwave is an excellent little program, which can manipulate .WAV files in a number of ways. The filtering menus are exceptionally good (you even get an onscreen mathematical equation showing exactly what filters you are using, and there is a choice of viewing different wave displays while your .WAV file is playing.) There are no impulse noise filters or crackle removers, however.

Cool Edit, which comes in both Windows 3.1 and Windows 95 versions, does have a very efficient continuous noise filter, similar to the one in DCart, as well as a range of other interesting facilities, not necessarily of interest to someone wishing to process 78s.

This brings us to DART (Digital Audio Restoration Technology)—a much more sophisticated program, costing several times the price of DCart. DART is

incredibly easy to use after DCart. There is one button on the toolbar called *EasyRun*, and even accepting the default settings of this you can process out most of the noise on even a very noisy 78, while leaving the musical signal relatively unscathed. Obviously much of the huge price difference between DART and DCart is accounted for by the fact that the DART program calculates all the complex filter level adjustments itself, where DCart leaves you to find out by trial and error which is the best solution. DART has that kind of flexibility if you wish it, but the defaults are good enough for all but the most unusual circumstances.

So where does that leave us? DCart is a wonderful little program, and with the excellent help menus, you can achieve spectacularly good results. I tried all sorts of different records, from Berliners to LPs and both vertical- and lateral-cut records, with reasonable success every time. Time is the one thing needed when running DCart—the full processing of one 78 rpm side took a whole afternoon, and on my PC running Windows 3.11, I was left with no workable memory by the end of the session. This is one problem of running this program on a PC with the minimum specification. I found it necessary to delete all but the final file containing the finished article, and save that, reboot the computer, and then copy that file on to tape. Then before starting on another record, I had to delete that final file as well to create enough space on my hard disk.

The preview facility has problems running on a PC with low specification—there is not enough memory to process and audition a file at the same time, so the sound comes in little bursts—like skimming across a CD in fast forward motion, only worse.

However, with a great deal of patience DCart can be run on an older PC, and believe me, the results make it well worth while. On a fast Pentium PC with

a large hard disk (or even better, a second hard disk for storing music files) and lots of memory (at least 16 MB) DCart should fairly fly along, but do be prepared to spend a long time on each record.

It is perhaps unfortunate that DCart has no easy facility for joining together 78 rpm sides, although Copy and Paste facilities can do this (cross-fading is only really necessary when the original performance was continuous, and then split up into 78 rpm sides). Even DART does not have this facility however, so if you need to do this, the best bet is to transfer your processed files into an editor which does cross fading. As we are dealing with purely digital files at this stage, no loss of quality should occur.

On this subject, I have noticed with some surprise that not all sound editors sound the same. This rears the whole ugly business of the perfection of digital sound, and we should not follow this line of argument at this time.

In terms of ease of use, DART is a clear winner over rival systems, but costs several times more than its competitors, so is really only to be considered for semi-professional work. CoolEdit and DCart cost about the same, but CoolEdit is not aimed specifically at the restoration of old records, although it can do some things very well.

Which brings us back to DCart. This is well worth investigating—it may well drive you mad when you are learning it, but the program is quite intuitive, and certainly can give fine results. It can also give quite horrible results if not used properly—I managed to make an HMV orchestral recording from the 1930's sound like a Polydor Light-ray recording from the 1920's complete with whistling violins (you remember that sound, don't you?) by over-use of continuous noise filtering.

Now, where did I leave that box of soft-tone needles? □

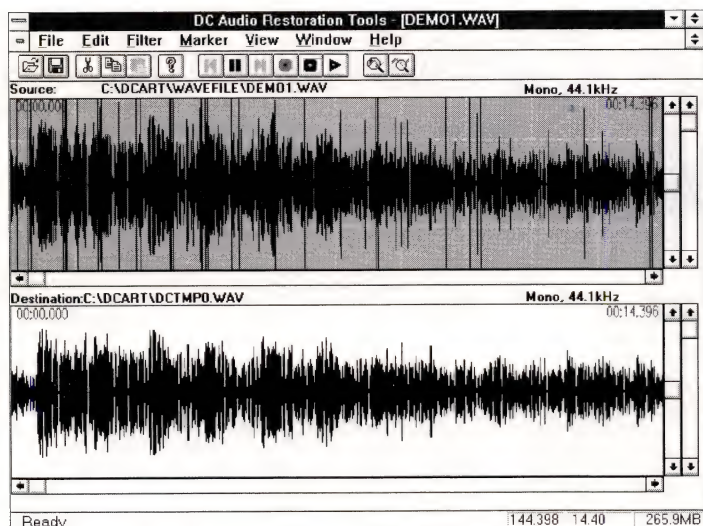


Figure 7. The final stage: the signal before and after processing.

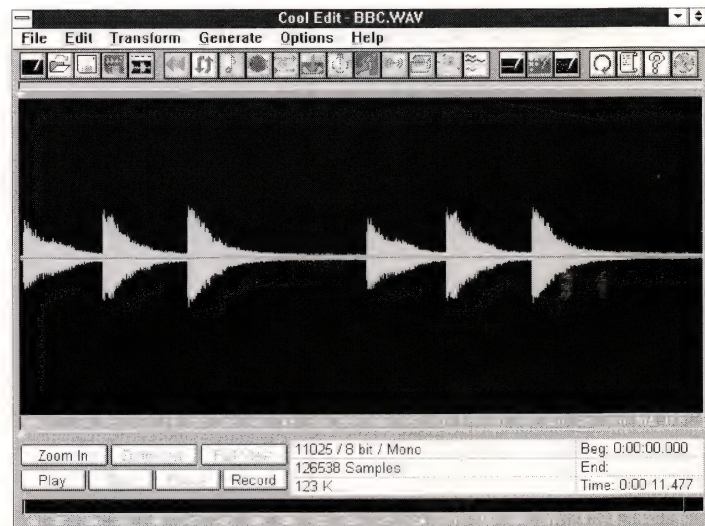
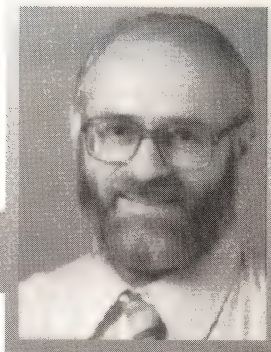


Figure 8. CoolEdit processing a wavefile.

Tips and tricks

MAKE YOUR LIFE EASIER

George Skarbek



Want to fit a bit more onto a floppy?

I usually backup onto floppies by using PKZIP as this is faster than copying and you can store much more data on the floppy. Occasionally there is just too much to fit onto one floppy. PKZIP can span multiple floppies but there is another program that provides much better compression. It is a Russian program called RAR which produces files ending in .RAR.

RAR can create what they refer to as a "solid" option, giving by far the best compression in most cases. Compressing all the articles that I have written for the Computer Age in 1996 which are in Word format reduced their size from 638 KB to 202 KB using the maximum compression with PKZIP. The RAR "solid" option reduced these to 122 KB which is one third better than the best that PKZIP can achieve. Incidentally the actual disk space consumed by the 50 Word documents on a 1.2 GB disk is over 1.6 MB due to cluster size. RAR reduced the consumed disk space to 8% of this. Using any compression program to move very seldom used files into one compressed file can free up a lot of disk space, especially with many small files.

Both RAR and PKZIP can produce self-extracting executable files so if you are sending the compressed files to another user, they do not need to have the extraction program. RAR has this built in while with .ZIP files you must use another program called ZIP2EXE. Both PKZIP and RAR are available on the BBS. PKZIP is the first file that you see in the file tagger, the file name is PKZ204G.EXE. RAR is listed as RAR200.EXE.

Removing the annoying Windows 95 password at startup

Are you asked for a password each time your computer starts? If you press *Enter* or *Cancel* does everything work. Would you like to remove this annoying prompt?

It's not very difficult to remove. Right-click on the *Network Neighbourhood*, then click on *Properties*. Then select the *Primary Network Logon*, change it to *Windows Logon* and click OK. If you are asked to restart the computer click on *No*.

Next open *Control Panel*, click on *Passwords*, then *Change Windows Password*. Type the password you have

been using in the *Old Password* box. Just press *Enter* if you haven't been entering any password. Leave the *New Password* and *Confirm Password* boxes blank and you will not be prompted again with the login screen after you restart your system.

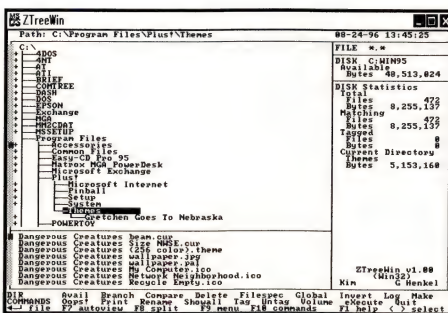
Note: If you—or anyone else in your family—have set up user profiles, the above steps will not prevent Windows 95 from prompting you for a password. If several people share a computer and have different tastes then each individual can have his or her wallpaper, icons, sounds, etc, by establishing individual profiles, names and passwords. The data and programs are accessible to all.

How to list all Win 95 interrupts

Ever added an old networking card into a Windows 95 computer and been told there is an IRQ clash and wanted to find what IRQs are being used rather than just trying one to see if it's free? Rather than using the not-so-reliable MSD, click in *Control Panel*, then *System*, then *Device Manager* with *Computer* highlighted click on *Properties*. You will also be able to examine I/O and DMA addresses.

XTree for Windows 95

There are very many users who still use the excellent DOS program, XTree, for file management under Windows. I use it too, on many occasions. Although, with Windows 95 there are two problems. Long file names, and with the very large hard disks containing thousands of files, running out of memory. Both problems are overcome with the shareware program, ZTW, an XTree for Windows 95. Melb PC members can download it from our BBS, other readers can get it from the Internet on <http://www.gate.net/~kbenkel/ztw.htm>



Tips for absolute beginners

Suppose you are using *Explorer*, *File Manager* or any other Windows product to mark some files in a subdirectory (or folder as they are called in Win 95) to copy, move or delete them. The following conventions apply to all Win 95 programs.

- Clicking once on a file marks it by highlighting it
 - Clicking on another file, will mark it, and will deselect the first
 - By holding the Ctrl key when clicking, all the previously selected files remain selected
 - By holding the Shift key down when clicking, all files between the last highlighted file and the file you are currently selecting will be highlighted
- The Shift and Ctrl keys can be used in combination in a single operation. For example, if you wanted to delete all but two or three files from a folder that holds many files, you can do it as follows:
- Click once to highlight the first of the files to be deleted
 - Scroll down to the last file
 - Hold the shift key down and click on the last file, to mark the lot
 - Release the shift key and scroll until you see a file that you wish to keep, then while holding down the Ctrl key click on the file you want to keep. This will unmark just this file and leave the others marked
 - To delete the marked files press Delete
- Note, in Windows 95 if you press Delete, the files will be sent to the Recycle bin, from which you can reclaim them. If you are sure you want to delete files, hold the Shift key down when you press Delete and the files will be deleted.

For Windows 95

- To sort by date in Explorer, just click on *Modified* heading. This helps you to find the recent files. Or click on *Size* to find all the large files. Clicking a second time reverses the sort order.
- If all these headings are not visible, but other headings are, extend the Explorer window to the right.
- If no headings are visible below the line which reads: *Contents of...* then click on View and select *Details*.

Measuring Internet performance



PINPOINTING THE DELAYS

Richard Solly

Internet performance is like the weather. Everyone seems to have a view about what is or isn't good. Too often a judgement is made based on perception, rather than measurement and many factors outside the control of your ISP influence performance, and your perception of it.

When talking about Internet performance, you must remember that the Internet is much more than the phone link between your computer and those at your Internet Service Provider (ISP). It's made of many computers linked together as in a chain. Each of those links has its own performance capability. The effect of all these mini-links together determines how fast data goes to and from your computer and the Internet. As with any

chain, it is only as good as the weakest link. Quite often these weak or very slow links are not in Australia.

Almost all data is sent as digital signals either as electrical signals on copper wire, light pulses in an optical fibre or radio signals in a microwave beam. The signals travel at approximately the speed of light. The data is modulated upon the carrier signal and it is how much data can be modulated in a given time that is important. If you were only sending one character (say, eight bits of information), no practical difference could be measured with a 300 bit per second (bps) modem and a 33,000 bps modem. Thus it is the amount of data that is sent in a given time that is generally called speed, although rate of data transfer is a more accurate description.

Data on the Internet is sent as packet of data, generally containing between 40 and 1500 bytes of data. Most packets have their own identity number, checksum of bits in the package, and the address of both the receiver and the sender. The receiver usually waits until it receives a group of packets prior to acknowledging this to the sender or displaying it on the screen. If the sender does not receive acknowledgment that a group of packets has been received, they are sent again.

Modern modems are designed to send 33,000 bps. The cables connecting Melb PC's Internet service computers can, in theory, transfer 10 million bps. Thus, in theory, the 10 million bps cable can easily supply 200 users with 33,000 bps modems, although not everyone is

Definitions

Modem (acronym for modulator/demodulator)

The device through which your computer transmits and receives information over a telephone line. The modem converts analog data into digital data your computer can read, and converts digital data into analog data that can be transmitted over telephone lines.

Modulate

In communications programs, the process of changing a signal prior to transmission so that signals are translated into meaningful information. A frequency modulator decodes information received over a telephone line into the data that is displayed on your computer monitor. Variations in the signal's depth, height, and frequency convey information.

Communication Protocol

A formal set of rules for communication between computers. TCP/IP protocols are required for any point-of-presence (POP) or SLIP/PPP connection. Other common protocols used on the Internet include File Transfer Protocol (FTP), Hypertext Transfer Protocol (HTTP), Simple Mail Transfer Protocol (SMTP), Telnet and Gopher.

TCP (Transmission Control Protocol)

One part of the two-layer protocol required for each Internet point-of-presence (POP) or SLIP/PPP connection. TCP manages the packaging of data into packets that are sent via different paths (over the Internet). TCP sections the message into efficiently sized chunks, or packets. Each of these packets includes an address. Addressing is done by the IP portion of this two-layer protocol. The TCP layer at the destination computer reassembles the message.

IP (Internet Protocol)

The second part of the two-layer protocol required for each Internet point-of-presence (POP) or SLIP/PPP connection. IP is responsible for addressing each data packet so that it arrives at the correct destination. This is crucial as packets are sent separately and by independent routes.

SLIP (Serial Line Internet Protocol)

A TCP/IP protocol you can use to connect your computer to the Internet, using a modem and a standard telephone line. SLIP is an older and less reliable protocol than PPP (see below). The "serial" in SLIP indicates that the connection is via a slower, serial line (where data is transmitted one signal at a time), rather than faster, parallel or multiplex lines.

PPP (Point to Point Protocol)

Like SLIP, PPP is a TCP/IP communications protocol you can use to connect your computer to the Internet, using a modem and a standard telephone line. PPP is newer and more stable than SLIP. PPP is preferred because it can accommodate synchronous as well as asynchronous communication, can share lines with other users, it also incorporates error-checking and several forms of password protection.

Ping (Packet Internet Groper)

A verification program, used to determine if a particular IP address exists and can accept requests. Ping can be used as a diagnostic tool, to determine if your computer is properly connected to the Internet (if you can't "ping" a host, you will not be able to retrieve any material from that host). Ping operates by sending a message to a host and waiting for a response. Thus it can be used to measure the time a message takes to travel, round-trip. (It is said that the name, ping, was "engineered" to match the submariners' term for the sound of a returned sonar pulse.)

Gateway

A network computer that acts as an exchange point to allow data to go from one part of the network to another part. For Melb PC, our proxy server may be considered as a gateway between your computer and the Internet for web browsing.

CGI (Common Gateway Interface)

A standard way for Web servers to receive data from a user, pass control to an application and send data back to the user. A common use for CGI is Web forms, where you input information and a confirming message is returned to you. Because CGI provides a consistent way for data to pass from a user's request to the application program and back to the user, it works no matter which operating system the server is using. The interface is consistent, but the CGI program can be written in any number of programming languages, including C, C++, JavaScript and Perl.

URL (Uniform Resource Locator)

The scheme used to address Internet resources on the World Wide Web. Each URL specifies the protocol, domain name/IP address, port number, path and resource details needed to access a resource from a particular machine.

For example

http://www.melbpc.org.au/pcupdate/603_toc.html is the URL for the Table of Contents for the March 1996 issue of PC Update.

<http> tells the sending and receiving computers the file should be sent using the Hypertext Transfer Protocol

www.melbpc.org.au is the domain name for Melb PC (which is actually a stand-in for the unique, numerical, Internet server address). Note the port number is omitted, which means the default value for the indicated protocol is to be used. For HTTP, the default is 8080.

[/pcupdate/603_toc.html](http://pcupdate/603_toc.html) is a hierarchical description of the location of the file on the server.

Traceroute

from hww.melbpc.org.au:

Type in the name of a machine in the box following, or select your computer (bilby11.melbpc.org.au):

This is a searchable index. Enter search keywords: **www.alphalink.com.au**

Please be patient while route times are obtained.

Figures 1 (above), 2 (below), 3 (upper right) and 4 (lower right).

Traceroute

from hww.melbpc.org.au:

Result for **bilby11.melbpc.org.au**:

```
traceroute to bilby11.melbpc.org.au (203.12.153.11), 30 hops max, 40 byte packets
1  bilby.melbpc.org.au (203.12.152.5)  4 ms  3 ms  3 ms
2  bilby11.melbpc.org.au (203.12.153.11) 204 ms 196 ms 182 ms
```

sending 33,000 bps all the time.

However if you run more than one job on your modem link at the same time with SLIP or PPP, you can easily see that both will generally appear much slower. This is the same thing that is occurring on the Internet. As well, parts of the chain are being asked to transfer data faster than they were designed to do. The result is that it takes longer to send a group of packets. And while the capacity of individual links can be increased, there is a continual battle between the number of users and the capacity of each link in the Internet chain.

Popularity is nice, but it has its price

It is possible for more than a million Internet users to try to reach a popular web site at the same time. The intended receiving computer has no hope of acknowledging all the incoming packets. The sending computers are designed to try again and resend the packets. The result is that effective data transfer on a very congested link drops to low levels.

Even if a site is only "very busy," it will take much longer for your group of packets to be sent. You may decide the Internet is slow. In fact it may only be the "busyness" of particular links or the busy site's link to the internet causing the slow transfer.

However, if the link from your ISP to the Internet is slow, then all Internet

sites you visit will be slow. That's why it's important to know which sections of the

Internet chain are slow and try and avoid these if possible. If it's your ISP's section of the Internet chain that is slow, or slower than you are willing to live with, you may want to consider changing ISPs.

Internet software tools to measure the links in the Internet chain are available to all PPP and SLIP users. As part of Windows 95 these are called TRACEROUTE and PING or combined in one package as WS_PING. You can run these from your PC, but if you do, the speed can be no faster than the speed of your modem link.

To measure the speed to and from the melbpc.org.au computers, subscribers to the Melb PC Internet service can use similar tools that have been made available on a UNIX computer, starting from the 10 megabit backbone. Any subscriber to the Melb PC Internet service can access these tools via their web browser. These are not available to subscribers to systems other than Melb PC's.

Melb PC Internet subscribers can use the URL <http://hww.melbpc.org.au/cgi/trace>, for Trace(route) and <http://hww.melbpc.org.au/cgi/ping> for Ping.

Traceroute

from hww.melbpc.org.au:

Result for **www.alphalink.com.au**:

```
traceroute to alpha.alphalink.com.au (203.24.205.1), 30 hops max, 40 byte packets
1  devil1.melbpc.org.au (203.12.152.10)  4 ms  2 ms  2 ms
2  198.32.194.253 (198.32.194.253)  9 ms  28 ms  26 ms
3  serial12-5.cor1.mel.connect.com.au (203.63.115.250) 10 ms 54 ms 56 ms
4  hss15-0-2.cor1.syd.connect.com.au (203.63.112.78) 68 ms * 132 ms
5  ethernet0-0.bdr1.syd.connect.com.au (203.8.183.30) 141 ms 116 ms 98 ms
6  aone-syd.gw.connect.com.au (203.8.183.250) 97 ms 120 ms 96 ms
7  sc1-exch-6.Sydney.aone.net.au (203.102.129.141) 132 ms 177 ms 117 ms
8  mc3-f10-ms2-8.Melbourne.aone.net.au (203.102.128.241) 116 ms 147 ms 135 ms
9  ma3-bdr-0.Melbourne.aone.net.au (192.58.133.145) 151 ms 134 ms 169 ms
10 alphaserial-3-1.Melbourne.aone.net.au (203.103.131.22) 280 ms * *
11 alpha.alphalink.com.au (203.24.205.1) 305 ms 246 ms 293 ms
```

Traceroute

from hww.melbpc.org.au:

Result for **www.netSPACE.net.au**:

```
traceroute to www.netSPACE.net.au (203.17.97.3), 30 hops max, 40 byte packets
1  devil1.melbpc.org.au (203.12.152.10)  4 ms  2 ms  9 ms
2  198.32.194.253 (198.32.194.253) 16 ms 9 ms 9 ms
3  aux1.Melbourne.netSPACE.net.au (198.32.194.11) 11 ms 9 ms 33 ms
4  core1-serial-3-1.Melbourne.netSPACE.net.au (203.17.96.10) 41 ms 15 ms 15 ms
5  www.netSPACE.net.au (203.17.97.3) 17 ms 45 ms 19 ms
```

Trace(route)

Trace(route) sends out a packet and measures the number of steps and the time it takes before the packet is sent back by other computers in the chain. Ping only measures the time for a packet to go from one computer to another. It generally is quicker and gives a more accurate measurement of the average time for a packet to go to a computer and back again. As it indicates the number of computers in the chain let us start with Trace(route) at

<http://hww.melbpc.org.au/trace>

The screen you will get will be similar to that in Figure 1.

You can trace the route back to your computer by clicking on the Internet name that you are loaned while connected to Melb PC, which is bilby11.melbpc.org.au in Figure 1. If you do this, you will see three computers in the chain in a screen similar to that shown in Figure 2.

Notice that a return packet takes 3 milliseconds (ms) on the fast backbone link between hww.melbpc.org.au and bilby11.melbpc.org.au and about 200 ms over (in my case) a 14.4 Kbps modem



From \$30/CD, including
certified gold CD.
PC & Macintosh.
Quantities from 1-10000+.
5 years experience.

CD MASTERING

- Hard disks, Zip, Jaz, Syquest, & DAT supported
- Backup valuable data & software
- Audio CD's and Band Demo's from DAT
- We can master all CD formats!

100% data integrity assured.

Centrally located in Prahran, Melbourne. **9510 7070**

On Site Training, Support and Consulting Services



M.Y.O.B

Windows 3.1

Windows 95

Best!Books

Internet

Bayside Solutions
Computer Consultants

eMail: bayside@pobox.com
<http://www.bayside.com.au/~bayside>

Mob: 0419 598 098 Tel: 9587 3455

from hww.melbpc.org.au:

Result for www.netscape.com:

```
traceroute to www81.netscape.com (198.95.251.36), 30 hops max, 40 byte packets
 1 devil.melbpc.org.au (203.12.152.10)  4 ms  3 ms  2 ms
 2 198.32.194.253 (198.32.194.253)  49 ms  9 ms  9 ms
 3 serial12-5-cori.mel.connect.com.au (203.63.115.250)  11 ms  14 ms  11 ms
 4 ethernet0-0-bdr1.mel.connect.com.au (203.6.183.46)  14 ms  11 ms  15 ms
 5 miw-serial2-3-LosAngeles.mci.net (204.189.208.125)  298 ms  296 ms  261 ms
 6 core1-fddi-0-LosAngeles.mci.net (204.70.170.17)  252 ms  276 ms *
 7 core3-hssi-1-Bloomington.mci.net (204.70.1.142)  368 ms * 274 ms
 8 somerouter.sprintlink.net (206.157.77.42)  247 ms  328 ms *
 9 sl-ana-14-PO/O-0-155M.sprintlink.net (144.232.1.69)  346 ms  271 ms  287 ms
10 sl-ana-2-FO/O.sprintlink.net (144.228.70.2)  335 ms  323 ms  357 ms
11 sl-stk-2-H4/O-T3.sprintlink.net (144.228.10.25)  558 ms  742 ms  386 ms
12 144.232.1.10 (144.232.1.10)  426 ms  310 ms  299 ms
13 sl-stk-16-FO/O.sprintlink.net (144.228.40.16)  286 ms  273 ms  266 ms
14 sl-netscape-1-s-T3.sprintlink.net (144.228.146.26)  282 ms  244 ms  254 ms
15 h-207-200-71-17.netscape.com (207.200.71.17)  306 ms * 295 ms
16 www81.netscape.com (198.95.251.36)  293 ms  289 ms  289 ms
```

Ping

from hww.melbpc.org.au:

Type in the name of an internet site in the box below, followed by an optional packet data size (ie www.connect.com.au 1492) or select your computer or proxy server if in use. (bilby11@melbpc.org.au):

This is a searchable index. Enter search keywords:

Please be patient while 6 ping packets are sent!

Ping

from hww.melbpc.org.au:

Result for archie.au:

```
48 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=0. time=92. ms
48 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=1. time=78. ms
48 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=2. time=43. ms
48 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=3. time=90. ms
48 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=4. time=141. ms
48 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=5. time=130. ms
```

-----archie.au PING Statistics-----

6 packets transmitted, 6 packets received, 0% packet loss
round-trip (ms) min/avg/max = 43/95/141

Figures 5 (above), 6 (upper right) and 7 (right).

link to my home computer running as bilby11@melbpc.org.au. The middle computer, (bilby.melbpc.org.au, or *wallaby* or *dingo* as the case may be) has the specialised job of servicing the modems.

The blank box in Figure 1 is for you enter the name of any computer to which you wish to trace the route. Let us try a trace to another ISP in Melbourne. Since alphaslink (www.alphaslink.com.au) has been discussed in our newsgroup, melbpc.general, let us use it here. As shown in Figure 3, there are 11 computers in the chain, or 12 if you were to start from your computer.

Each of the three response times (in ms) in a line, is the time to go from hww.melbpc.org.au to the computer named on that line. When doing this be aware that the trace web output page is not displayed until all the route is traced. This can take some time so you may need to be patient.

You might ask why do packets to www.alphaslink.melbpc.org.au here in Melbourne go to Sydney and back again? That's a very good question. The answer lies solely in Internet economic politics. Melb PC's wholesale provider, connect.com, has a "peering" arrangement with *Access One* (alphalink's current wholesale provider) in which the two providers exchange data traffic in Sydney without charging one another. To go directly to alphaslink in Melbourne would involve transit via Telstra links, and Telstra would charge for this service.

If you look at the detail in this example, you can see that times for packets up to

Sydney and back to Access One (aone) in Melbourne are faster than your modem link. Then they are a little slow to alphaslink itself.

Consider one more ISP, www.netspace.net.au with the trace output shown in Figure 4.

Only five computers (six counting hww.melbpc.org.au) are shown in the screen output. Three computers are melbpc.org.au computers, and three are *netspace*. Note that the route completely bypasses our wholesale provider connect.com.au. This is part of an exciting new "peering" development amongst ISPs designed to bring cheaper rates to users. It was only recently, so watch for future developments. Also notice how on this occasion the return packet time from *netspace* is about 25 ms, compared to about 300 ms from alphaslink. Packets coming and going to melbpc.org.au computers via *netspace* are about 10 times faster than those going via alphaslink. This may change as alphaslink also proposes to join the new ISP "peering" group.

Let us now look at a Trace(route) to www.netscape.com in the United States. (Don't confuse netscape.com in the US with netspace.net.au here in Melbourne.). Sixteen computers are shown in this chain to Netscape in Figure 5.

On this occasion, the return packet time from Netscape is about the same as from alphaslink in Melbourne. That's not the whole story though. Where there is a

asterisk (*) on a line, it means that the three packets sent, were not received back from that computer.

That's enough on Trace(route) for now, you can run as many examples as you have time and patience for, for yourself.

What about ping?

Figure 6 shows a possible output for http://hww.melbpc.org.au/cgi/ping. I've entered "archie.au" in the box, but it will be blank (when you try it for yourself) awaiting your input when first displayed.

Ping is a more accurate "start computer to final computer" version of Trace(route). In our case the number of packets sent is six (fixed by the CGI script). The output for archie.au is shown in Figure 7.

It shows individual ping-packet return-times on a single line, with a packet sequence number. It also shows a summary of the slowest, average and fastest packet return times. It does not show the route, Trace(route) is needed for that. On this occasion, the average ping-packet return-time was 95 ms.

You can vary the number of bytes in the ping packet (48 bytes being the default). Just enter the number of bytes after the name in the box. If the number of bytes to [archie](http://archie.au) is increased to 1500, the ping times are much longer as you can see from Figure 8. Larger packets are much more sensitive to Internet congestion,

Ping

from hww.melbpc.org.au:

Result for archie.au:

```
1500 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=0. time=282. ms
1500 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=1. time=679. ms
1500 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=2. time=327. ms
1500 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=3. time=247. ms
1500 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=4. time=1470. ms
1500 bytes from arnold.telstra.net.au (139.130.23.2): icmp_seq=5. time=629. ms
```

-----archie.au PING Statistics-----

6 packets transmitted, 6 packets received, 0% packet loss
round-trip (ms) min/avg/max = 247/605/1470

Ping

from hww.melbpc.org.au:

Result for www.microsoft.com:

```
48 bytes from microsoft.com (207.68.156.16): icmp_seq=0. time=694. ms
48 bytes from microsoft.com (207.68.156.16): icmp_seq=2. time=633. ms
48 bytes from microsoft.com (207.68.156.16): icmp_seq=4. time=351. ms
48 bytes from microsoft.com (207.68.156.16): icmp_seq=5. time=341. ms
```

-----www.microsoft.com PING Statistics-----

6 packets transmitted, 4 packets received, 33% packet loss
round-trip (ms) min/avg/max = 341/504/694

Figure 8.

Figure 9.

but small packets are more often used.

Finally let's look at Figure 9, a ping to www.microsoft.com. In this case only four of the six packets were returned.

Or, one third of the packets were lost. This proportion of lost packets generally leads to poor Internet performance. In this case, the overall ping times were not especially slow at 500 ms for 48 byte packets (I have seen cases taking up to 5000 ms). I did try to obtain a Trace(route) to www.microsoft.com, but no output was received after about 10 minutes. Trace(route) and ping screens are only returned after completion of the script. If the route is poor, Trace(route) may never return, whereas ping will show the number of missing packets.

High packet loss without very long ping times often means one of the many computers in the chain is performing poorly and losing packets. With more persistence this poor performer can often be identified using Trace(route). Ping and Trace(route) are not necessarily ideal for measuring Internet performance. Some computers will discriminate against ping packets. Yes, packets can be identified as ping or data packets or other types from their header information. Discrimination more often occurs when the computers are busy. Packets are sent along the chain of computers by being received and resent

to the next computer. When a computer is busy, it may simply discard the less important ping packets so more of the important data packets can be sent on to the next computer. Thus the proportion of data packets which are lost may not be as high as that for ping packets. But when an Internet computer is overloaded, it will lose all type of packets.

What does it mean, what can you do?

The next time you experience "slow" Internet performance, don't just complain. Use Trace(route) and Ping from the CGI script at www.melbpc.org.au to see just where the bottleneck occurs. You may find computers that can be reached by faster routes. Just by sitting down at your computer, you can trace the routes the packets are taking as they make their way through very many computers.

What about the BBS?

You may say the Internet is not as fast as the Melbourne PC User Group BBS. In general it is not. The BBS computer is connected directly to the modems by a multiport serial board, with the files generally being one computer away from a fast Ethernet backbone. Where Internet computers are connected by high capacity, unloaded links, the difference between the performance of the Internet

and the BBS is small. But such links cost a great deal of money and as is most always the case in real life, a balance is necessary between congestion and cost.

As you will have seen from these examples, the melbpc.org.au sections for the routes—those sections for which Melb PC pays directly—are in the good to excellent range in terms of speed. Slow sections are generally outside our control and some-times out of the control of even our wholesale provider, connect.com.au. However in the weeks prior to the writing of this article some routes in the US were "very poor" with packet loss over 50 per cent. Our wholesale provider, connect.com.au, is in the process of changing their route sections in an attempt to bypass these slow sections. But when the slow link is at the host computer for the site you are trying to visit, the only way to improve the speed is by using another site.

If you have an account use WS_PING.EXE with Windows 95, Windows NT or Windows 3.11 with a Winsocket program to measure both ping times and trace routes from your computer. The screen output is not the same as shown in these examples, but the numbers will have the same meaning.

Happy tracing and pingting. □

A Better Computer Solution!

Authorised Intel dealer

Talk with the people who **REALLY** know...

High performance systems, with the best quality components, can be yours — built exactly to your own specifications. Talk to us. We are keen to listen to *your* needs and will assist you in planning *your* computer.

Computer Rebuilds can also advise you on CD-ROMs, Hard Disks, Memory and Processor Upgrades, Multimedia and Networking solutions.

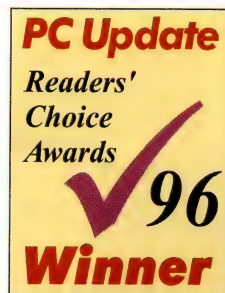
Morris Tobias has been a member and long-time supporter of Melb PC since 1987. Hundreds of members have benefitted from his expertise.



Call him for an obligation free assessment!
COMPUTER REBUILDS
Board & Drive Upgrade Specialists
476 Swan Street, Richmond Vic 3121
Telephone (03) 9428 4413 Fax (03) 9427 9279



**Winner of PC Update
Readers' Choice Awards —
Computer Repairer/Upgrader**



GoldMine for Windows 95 v3.2

SOFTWARE REVIEW

Bernadette Houghton



Info Box

GoldMine

Minimum system requirements

- 386DX
- Windows 95
- 6 MB RAM
- EGA colour
- 8 MB free hard disk space.

Availability and cost

GoldMine is sold through a network of authorised resellers. A Victorian reseller is joining the network, but in the meantime for pricing information, contact either of:

- Automated Sales Force Solutions P/L
Nick Phillips,
e-mail: nlp@magna.com.au
Ph: (02) 9437 7800
Fax: (02) 9438 4366
- BP Computer
Richard Phan,
e-mail: 100253.3262@compuserve.com
Ph: (09) 321 6000
Fax: (09) 321 5738

GoldMine is a powerful, heavy-weight contact manager, capable of tracking contacts and activities to almost infinite lengths. Well suited to single users, it is especially useful over networks or distributed environments, with excellent workgroup scheduling, multi-level user security and inbuilt data synchronisation.

GoldMine supports an extensive range of third-party add-ons and most popular networks, including Novell, LANtastic, Banyan, Windows for Workgroups and Windows NT. You can create as many databases as disk space allows and import and export ASCII, dBASE and SDF formats. GoldMine Software claims, too, that GoldMine imports ACT! databases seamlessly, although I didn't verify this.

Contact management

Contact records are the heart of GoldMine. Unless you choose otherwise, all past and pending activities of whatever kind are linked to a contact record, giving you a full history of each contact. Records contain two kinds of fields—fixed and user-definable. Fixed fields include standard data such as company, title, address, and past and pending events. You can customise the label of any fixed

field (e.g. *Phone1* to *Work Phone*), but you can't change the underlying data structure. Customisable lookup tables control and speed user input in each field, fixed or otherwise. Central to GoldMine's power and flexibility are a series of folders associated with each contact record. Apart from Summary, Notes, Pending and History (which are self-explanatory), the folders include:

- Contacts, which list other people within an organisation.
- Profiles, which are fields attached to records on an "as needed" basis; for example, not every contact may have an e-mail address or credit card.
- Referrals, which link records in the same database. Referrals are two-way, so you can follow links from one record to another (e.g. the branching and distribution of leads.)
- Links, which enable you to associate documents or applications with records and launch them from GoldMine.
- Members, which displays the groups to which the contact belongs (e.g. Melb PC member, customer.)
- Tracks, which lists any automated processes assigned to the record. Automated processes are triggered on pre-defined events (e.g. if a prospect

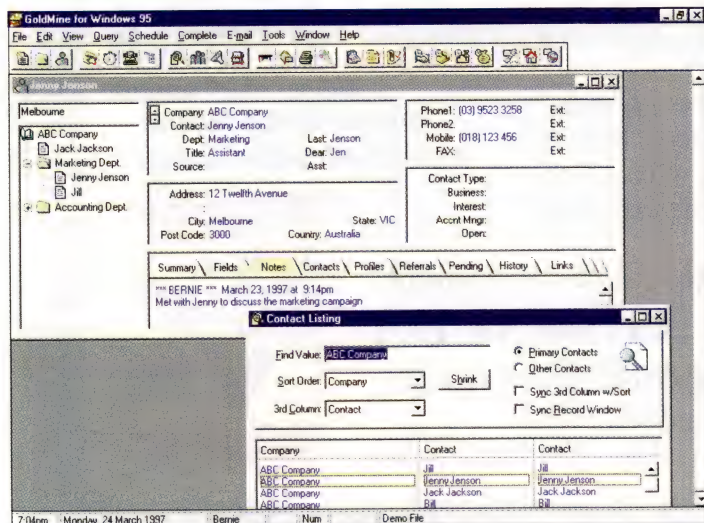


Figure 1. Contact record showing organisational chart display and results of a "find".

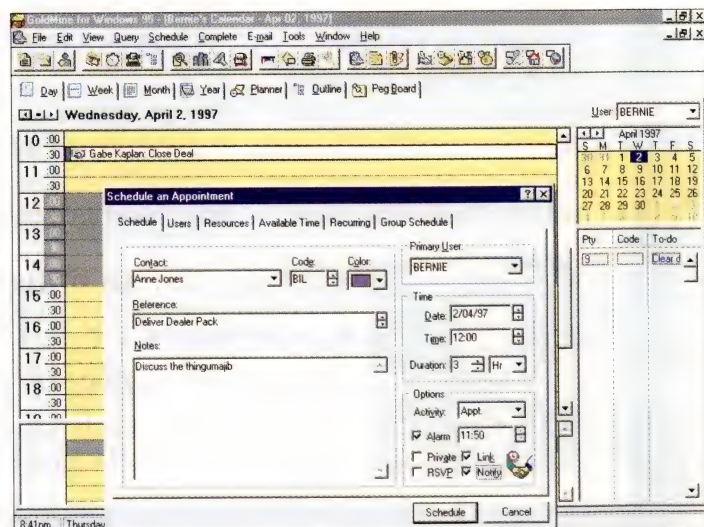


Figure 2. Scheduling an appointment in daily calendar view.

if contacts are a vital part of your job ... GoldMine is well worth a serious look

makes a purchase, GoldMine schedules a follow-up letter automatically.)

You can use the *Fields* folder (and another 18 user-definable folders) for custom fields. Up to 999 custom fields are possible; these are global and, unlike profiles, attached to all records. You can also define up to 20 views, in which you specify which custom fields and folders will be visible for which users or user groups. You could define different views for sales and technical people, for instance.

GoldMine accepts up to 1 million contact records, yet makes it easy to find specific records. Certain fields are indexed for faster searching, but you can search any fields using a simple *Find* dialog box, or more sophisticated filters. Groups and profiles (described above) facilitate much faster searching, since GoldMine doesn't need to search the entire database. Organisation charts are another way of quickly finding related records; this feature enables you to link records (e.g. multiple company locations, departments or individuals) and display them in a hierarchical folder-type display.

Calendar

GoldMine displays daily, weekly, monthly and yearly calendar views in a tabbed interface. The quickest and easiest way to enter a calendar event is to click and drag out a time—a dialog box then pops up. GoldMine automatically checks for any schedule conflicts. Apart from standard calls, appointments, events, to-dos and recurring activities, you can record forecasted sales, providing the basis for detailed sales performance reports. You can roll unfinished tasks forward, allocate priorities, and associate tasks with contact records. GoldMine warns you in advance of pending events, but if its not running, GoldAlarm does so instead. Access to your activities is fast and easy with the *Activity List* which lists all completed and pending activities in tabbed folders.

With the appropriate access rights, you can view other users' schedules, scan for available meeting times then schedule an activity with or for multiple users, at the same time requesting an RSVP. A *Planner* tab displays the combined schedule of selected GoldMine users, and a *Peg Board* tracks user availability and current work activity.

Figure 3. Defining an automated process.

Figure 4. Building a filter.

Activity	User	Date	Time	Reference
Call Out	BERNIE	Mar 12	2:45p	wanted to hup regarding the referral to VisionLink
Other	BERNIE	Mar 13	2:47p	Referral To: VisionLink; Lead sent to Solutions Pa
Other	BERNIE	Mar 11	2:47p	Referral of: Cadtech Engineering Ltd.; Lead sent to
Mag Sent	BERNIE	Mar 13	2:48p	To: BERNIE; wanted to let you know, I referred th
Call In	BERNIE	Mar 10	2:51p	would like to purchase copies of several reprints
Call In	BERNIE	Mar 10	2:56p	wants literature and demo on GM for small law offi
Action	BERNIE	Mar 18	2:57p	GM WIN EU Demo & Lit

Creation: Jessica: Dec 14, 95 at: 2:46p
Updated: Bernie: Mar 12, 97 at: 2:46p
Contact: Scott Leonidsky
Company: Heather Hill
Phone: (216)294-4664 Ext:
wanted to hup regarding the referral to VisionLink

Figure 5. The Activity List.

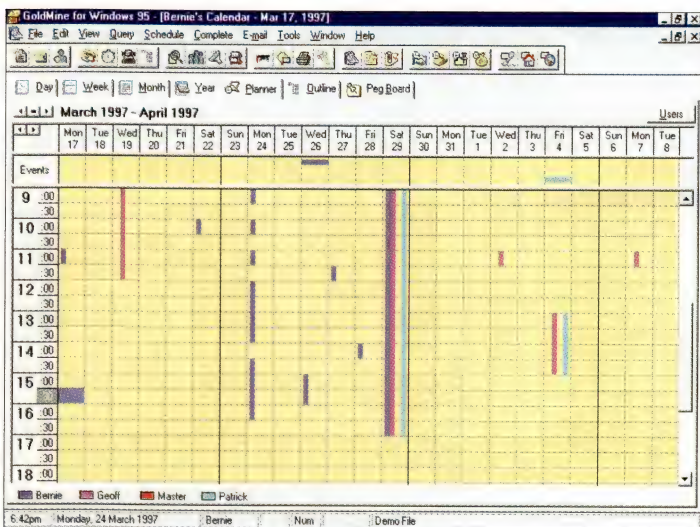


Figure 6. The Planner showing multiple users.

Figure 7. Creating a report.

Communications

GoldMine includes Internet and local network e-mail support. You can send and receive in Rich Text Format, filter messages, attach MIME documents and encrypt outgoing messages. GoldMine can log on to your server at preset times, download any mail, then log off; all without user intervention. Once downloaded, GoldMine presents mail for viewing, latest messages first. I didn't like this feature, but could find no way to change the default.

Clicking a URL in a contact record or e-mail message automatically launches your Web browser and loads the site. If you have your own Web site, you can use GoldMine's automated processes to download forms your visitors submit, absorb them into your contact records then process them automatically (e.g. mail-outs.) You can also synchronize GoldMine data via the Internet and download appointments and phone numbers to your Timex Datalink watch. If you have a pager, GoldMine can page you or notify you of alarmed activities; you can also page other GoldMine users.

GoldMine has an autodial function for hands-free phone dialling. Apart from the contact records, GoldMine offers a Rolodex for personal telephone numbers.

Other Features

GoldMine has 50 predefined reports, including a range of quota analyses, lead analyses, sales forecasting, and performance statistics and graphs. You can create custom reports and generate correspondence for mass and targeted mailings. Alternatively, you can create documents in any DDE-compatible program and link with GoldMine to generate the mailing list. If you have WinFax Pro 7.01 or later, or RightFax, you can also fax directly from GoldMine.

With the InfoCenter you can create organisational or personal knowledge bases. Using a hierarchical outline, the InfoCenter stores folders, documents, graphics, multimedia files and programs (or the links to them) in a central location. You could use it to maintain and disseminate organisational information such as pricing policies and internal memos.

You can create macros to speed frequently performed tasks, such as reading your e-mail or entering sales forecasts. Scripts automate tasks such as guiding telemarketers through sales calls and informing salespeople of

product information. There are two kinds of scripts; topic scripts are simple "do this" commands (e.g. display a price list), while branching scripts allow for user choices in a flowchart-type format.

Assessment

GoldMine is a very customisable program, although I did find the e-mail function quite inflexible. It takes some time to plumb its depths, and the extensive help information (a Getting Started, a User's Guide, two Reference Manuals and online help) is not as useful as it could be. Partly this is due to poor indexing, partly to poor explanations and partly to poor layout. On the other hand, there are useful Wizards that guide you through some tricky tasks (e.g. Import/Export, Merge/Purge.)

GoldMine presents an attractively tabbed interface, with the Activity List an ideal toolbox, quick, easy-to-use and close at hand. Except in the case of filing my e-mail, I found GoldMine ran quite fast; much faster than Sidekick on the same machine.

The networking and workgroup scheduling features are GoldMine's strongest suit, but the other features are pretty powerful too. I particularly like the way it maintains a history for all contacts and makes customer follow up relatively painless. If your contacts are a vital part of your job or if you just need a powerful contact manager, GoldMine is well worth a serious look. □

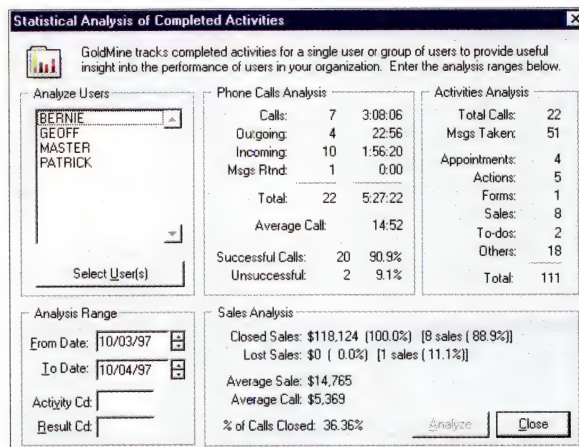


Figure 8. On-screen statistical analysis report.

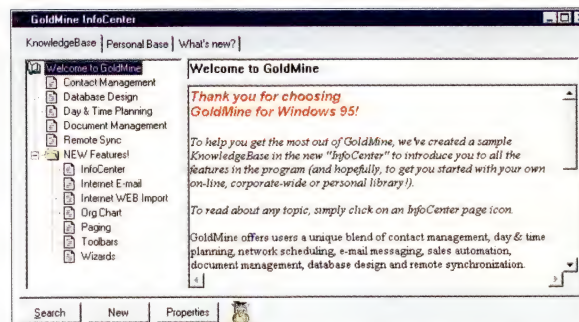


Figure 9. The InfoCenter.

Members' free ads

SAVE A DOLLAR

Member-to-member deals

FOR SALE

Ortek 8-speed CD-ROM. \$110
Teac 4-speed CD-ROM with 16-bit control card and Win95 driver. \$80
SB16 sound card AT CD-ROM connector. \$80
ET4000 2 MB PCI video card. \$60
Netcomm M7F 14,400 bps data/fax modem. \$80
All in good condition, with manual where applicable. Any offer considered.

Anthony, (03) 9275 2387 BH after 9.30 am,
(03) 9841 8162 after 6.30 pm

Wordstar 2 for Windows: Word processor with DTP functions, inc manuals. \$45

Paradox 7: Database for windows with all manuals. \$95

Backit 4: Excellent fast backup program for DOS 6 / WIN 3 with manual. \$35

Best Books: Easy windows accounting program with manual. \$65

BPlan: Business plans including sales, marketing, budgets with manuals. \$55

Universal Word: Multilingual windows word processor with German & English dictionaries. \$40

Peter Schnell (03) 9761 561, 8 am - 8 pm

Trakker 250 MB external (parallel port) tape backup incl. 6 tapes, cables, manuals, carry bag, DOS/Win software and cleaning kit: \$90

Two computer desks 1200 x 900 electric height adjustable. \$35 each

LAN tools: Coax stripper tool, crimping tool and many coax connectors. \$50 lot

IDE and floppy cables (30). \$20

ABC SnapGrafix (drawing tools for Microsoft Office). \$10

Game: Critical Path (CD). \$10

Robert (03) 9764 9661

686 P120-100 MHz, full tower, 32 MB RAM, 3 HDs: 1.2 GB, 217 MB, 113 MB. 3.5 & 5.25 floppies, 8-speed CD-ROM, 16 Creative sound card,

Maestro 14,400 fax/modem, 14-inch SVGA monitor, Honeywell Keyboard, Microsoft mouse, Thrustmaster joystick, Windows 95, Core

WordPerfect Suite v7, Mech Warrior 2 & Ghost Bear Legacy. \$1699

John (03) 9793 1447

Advertisements from members, for Swap, Wanted, For Sale, Free, etc. are run free of charge.

All ads must be loaded as a file (NB: *not* a message) to the BBS (NB: *not* the Internet) in ASCII format to area PCUP or supplied as an ASCII file on a virus-free non-returnable MS-DOS diskette (any size) and delivered to the Group's Office.

We do not have the time to type your ads, so this service is restricted to electronic advertisements.

Infected disks are thrown out, without attempting to disinfect or recover data!

Members' ads will be included in the first available issue of PC Update.

Advertisements must include at least one phone number—if you only want replies via the BBS or Internet, only advertise there.

SOFTWARE REVIEW

Bernadette Houghton



Quality assurance systems are a vital business requirement these days and, if properly implemented, help to improve operational efficiency and effectiveness. Quality

assurance certification is also frequently a pre-requisite for winning contracts from governments and other large corporations.

TQA—Toolkit for Quality Assurance—aims to help businesses introduce a formal quality assurance system without resorting to expensive consultants. It is not so much a software package as a series of templates and sample quality documents which you adapt to your own requirements.

Developed by Brisbane-based Qudos Management Services, TQA claims to conform to the international quality standards ISO 9001 and ISO 9002 (1994 editions). A Guidebook discusses and clarifies the requirements of each sub-clause (subclauses 4.1—4.20), explains what documentation is needed and points you to the appropriate template. It suggests an approach for developing your own quality assurance system, and gives examples for three imaginary businesses—a plant nursery, electrical contracting business and a legal practice—along with explanations of how the templates were modified to suit each business. There is also a complete sample quality manual and sample quality procedures, with tips for customising them to your requirements. Documents and templates are in Microsoft Word, Microsoft Works and WordPerfect format.

Your business probably already has

its own forms and documentation. TQA will help you assess their conformance to the standards, and make it easy to update them if necessary. A useful system checklist will help you assess the adequacy of your overall quality system, and short slide-shows explain various elements of quality assurance.

TQA should be a useful starting point for small businesses wishing to develop a quality assurance system. The press release included with the package claims that TQA is capable of taking businesses all the way to quality assurance certification. As evidence, it includes a copy of a letter from a Queensland firm that used TQA to obtain certification on its first attempt. Certainly, the sample documents and templates should save you time—and money—in developing your own system. □

Info Box

TQA

Minimum system requirements

- 386 processor
- Windows 3.x
- Word processor (Microsoft Word 6+, WordPerfect 6+ and Microsoft Works 3+ supported)
- Typical installation requires 2 MB free disk space

Availability and cost

Available at major software stockists, including Myer, David Jones and Harvey Norman.

Distributed by Manacomm Pty Ltd

Ph: (03) 9521 5655

Fax: (03) 9521 5677

RRP: \$395

ISO 9001 clause	Summary of requirements	When achieved	Who is responsible	When required	Comments/Implementation
4.1	General requirements				
4.1.1	Policy				
4.1.2	Objectives				
4.1.3	Management system				
4.1.4	Documentation				

Figure 3. System Checklist.

Part number	Title
1	Contents
2	Introduction
3	Definitions & terminology
4	Quality policy statement
5	Organisation chart
6	Responsibility & authority for quality
7	Resources and management representation
8	Management review
9	Quality system - documents
10	Quality system - planning
11	Quality system - procedures
12	Quality system - outline

CONTRACT REVIEW - PROCEDURE QP 3-1

1. PURPOSE

To establish and maintain a system which will:

- Ensure that customer's requirements are defined and documented
- Ensure that Your Company has the capability to comply with requirements
- Ensure that any difference between the quote / tender and the order are resolved
- Ensure that any contract amendments are recorded, and communicated to those whose work may be affected
- Ensure that suitable records are maintained.

2. SCOPE

This procedure applies to external relating to customer enquiries/tenders/orders for all products and services.

3. REFERENCES

ISO 9001 - 1994 sub-clause 4.3
 Process control - procedure QP 9-1
 Control of quality records - procedure QP 16-1
 Customer enquiry form F 3-1
 Customer query F 3-2
 Contract amendment form F 3-3

4. RESPONSIBILITIES

Sales Manager	Overall responsibility
Customer staff	Processing and forwarding enquiries to authorised sales personnel
Authorised sales personnel	Processing enquiries
	Preparing and processing quotations
	Communicating with customers

Figure 2. Sample procedure.

CUSTOMER ENQUIRY FORM

Enquiry Number: _____ Received by: _____ Date: _____

Company Name: _____

Contact Name: _____

Address: _____

Postal address (if different): _____

Tel 1: _____ Tel 2: _____

Fax: _____ Mobile: _____

How did customer learn about us? _____

SUMMARY OF REQUIREMENTS:
 (Attach further information if applicable)

Can we satisfy requirements? YES / NO / REFER TO NOTES

Authorised to proceed (signature): _____ Date: _____

NOTES

Figure 4. Customer Enquiry template.

Training courses

MAY - JUNE

Paul Palcsek



Applications

Introduction to Access v2.0 \$102

Ray Azzopardi

6.30 pm—9.00 pm, Thu 3, 10 Jul.

This course gets you started on the road to making use of the powerful features in Access. You'll learn how to create tables and queries. Students receive a comprehensive exercise manual.

Prerequisites: Experience with Windows and a mouse.

Introduction Powerpoint \$45

Caroline Houston

6.30 pm—9.00 pm, Tue 22.

This course will give you an introduction to Microsoft Powerpoint.

Prerequisites: Students must be familiar with Windows.

MS Publisher Introduction \$90

John Hulskamp

6.30 pm—9.30 pm, Mon 16, 23 Jun.

The course provides participants with an introduction to desktop publishing using MS Publisher, and an opportunity to produce a simple flyer and brochure targeted at the participants' interests.

Prerequisites: A familiarity with a word processing package such as MS Word, and Windows operation.

Office 97 Overview \$45

Len Kriis

6.30 pm—9.30 pm, Wed 25 Jun.

This session gives you an overview of the major new and revised features of Office 97, including the new Internet Web features. It helps people who are trying to decide on an office suite, or considering whether to upgrade.

Prerequisites: Acquaintance with other Office 95/3.x or other integrated Windows Office suites would enhance the experience, but no specifics are needed.

Booking

To book a course, please use the order form on page 32 or, for credit card orders, phone or fax the office (numbers on page 3.)

Quicken for small business: \$180

Viv Martin

6.30 pm—9.30 pm, Mon 7, 14, 21, 28 Jul.

Bookkeeping, record keeping, producing reports for accountants.

Prerequisites: Basic Windows experience assumed.

Starting Excel v5 \$177

John Fitzsimons

10.00 am—4.00 pm, Sat/Sun 5/6 Jul.

Organise your facts and figures using Excel. You can use Excel as a simple database to keep track of assets or use it to keep track of your bank accounts. Excel has hundreds of uses. This course gives you a solid introduction to Microsoft Excel v5. Students receive a comprehensive exercise manual.

Prerequisites: Experience with using a mouse and Windows.

Using Excel to analyse data \$103

Ray Azzopardi

6.30 pm—9.00 pm, Thu 31 Jul, 7 Aug.

This course covers functions, formulas, pivot tables, charts, trend analysis, data sorting, subtotaling, data grouping, filtering, exporting to a database, macro recording, non-workbook files. Students receive a comprehensive exercise manual.

Prerequisites: Must have used Excel.

Using Excel to analyse data \$75

Ray Azzopardi

6.30 pm—9.00 pm, Thu 19, 26 Jun.

This course covers functions, formulas, pivot tables, charts, trend analysis, data sorting, subtotaling, data grouping, filtering, exporting to a database, macro recording, non-workbook files. Students can purchase a comprehensive exercise manual for \$28.

Prerequisites: Must have used Excel.

Word for Windows v6/7 long documents: \$73

Jill Renison

6.30 pm—9.00 pm, Wed 16 Jul.

Do you have to manage long documents? Do you like to brainstorm? Use Word's inbuilt features to manage long documents, theses, novels, etc. Learn how to add section breaks, headers, footers, tables, indexes, page numbers, etc. Use Word's outlining feature to brainstorm ideas. Students will receive a comprehensive exercise manual.

Prerequisites: Must be able to create, save and edit Word Documents, and have experience using a mouse with Windows.

Communications

Using the Melb PC BBS \$45

Lynn Pollock

6.30 pm—9.30 pm, Mon 30 Jun.

6.30 pm—9.30 pm, Fri 11 Jul.

A basic look at the Melb PC BBS with hints and tips on using all the various menu items. Also covers initial log ons and using the message areas.

Prerequisites: Must have logged onto the Melb PC BBS

Internet

Note: Internet courses are best done in the sequence shown—1 to 5; or 1, 2 or 3, 4 and 5.

1. What is the Internet? \$45

Lynn Pollock

9.00 am—12 noon, Sat 21 Jun.

9.00 am—12 noon, Sat 26 Jul.

An overview of the Melb PC Internet service. Live demonstrations of all the major programs that go to making up the Internet. Discussion of the Hardware items involved. General questions concerning Internet connections.

Prerequisites: None.

2. Using the Melb PC Internet service—Windows 3.1 \$90

Lynn Pollock

9.00 am—4 pm, Sun 1 Jun.

1.00 pm—4 pm, Sat/Sun 12/13 Jul.

This is a basic course exclusively for Windows 3.1/3.11 users. Hands-on individual installation of Windows 3.x Internet software. Explanation, discussion and live connections to demonstrate all the major components. Covers all aspects of Internet connection. Basic discussion on broad range of Internet topics including netiquette, viruses and common connection problems. Suit people about to install basic Windows 3.x Internet software or novice users of the Internet.

Prerequisites: Must have a good working knowledge of Windows 3.1.

3. Using the Melb PC Internet service—Windows 95 \$90

Lynn Pollock

9.00 am—4.00 pm, Sun 15 Jun.

9.00 am—12 noon, Sat/Sun 12/13 Jul.

This is a basic course exclusively for Win 95 users. Hands-on individual installation of Win 95 32-bit Internet software. Explanation, discussion and live connections to demonstrate all the major components. Covers all aspects of Internet connection. Basic discussion on broad range of Internet topics including netiquette, viruses and common connection problems. Suit people about to install Win 95 Internet software or novice users of the Internet who want to use the inbuilt Win 95 32-bit TCP/IP software.

Prerequisites: Must have a good working knowledge of Win 95.

Notes

Courses are held at the group's premises, usually in the training room. Some courses are held in the sig room, so check when you arrive.

For more details see the BBS or the group's Web pages.

Enrolments usually close a week before the course starting date.

The address is:

2nd Floor, 66 Albert Road
South Melbourne VIC 3205.

There is normally plenty of nearby parking in the evenings or at weekends.

4. Effectively using Web Browsers \$60

Lynn Pollock

7.00 pm–5.00 pm, Sat 21 Jun.

1.00 pm–5.00 pm, Sat 26 Jul.

Complete demonstration and explanation of all features and configurations in the latest versions of Netscape and MS Internet Explorer.

Configuring new helper applications, managing bookmarks or favourites, and tips and tricks to maximise your browser usage. Discussion on various searching techniques for locating information on the Web and other browser-related issues.

Prerequisites: Must have attended basic Internet course or have a reasonable Internet understanding. This is an intermediate course.

5. More using Melb PC Internet service \$90

Lynn Pollock

9.00 am–4.00 pm, Sun 22 Jun.

9.00 am–4.00 pm, Sun 27 Jul.

Complete demonstration and explanation of e-mail (advanced packages) FTP, Archie, Gopher, Finger, Telnet, IRC Network, newsgroups and offline readers, list servers, session timers and more. In addition, connection problems are discussed as well as general tips and tricks to improve your connection time. A set of detailed instructions are discussed and practised, detailing how to upgrade or add to your Internet software without causing major problems or heartaches.

Prerequisites: Must have attended basic Internet course or have a reasonable Internet understanding. This is an intermediate course.

Operating Systems, Diagnostics, Hardware

Advanced Windows 95 \$45

Lynn Pollock

6.30 pm–9.30 pm, Fri 13 Jun.

6.30 pm–9.30 pm, Fri 25 Jul.

Complete hands-on examination of the advanced features found in the Win 95 operating system. Includes adding and configuring new hardware, multiple user configurations, Registry control and editing, advanced system maintenance, backing up essential files, communications and more!

Prerequisites: Attendees must have a good working knowledge of Win 95 and have obtained an understanding of the operating system's functions.

Computer basics \$120

Mary Levens

6.30 pm–8.30 pm,

Tue 3, 10, 17 Jun, 24 Jun.

Take control of your computer with this hands-on guided discovery of dos-based computing. Covers terminology, basic dos commands, directory structure, file types, brief discussion of hardware and software. Knowledge of these topics is a prerequisite for other courses.

Prerequisites: No prior computing experience required. Students must have frequent access to a dos-based PC outside of class.

Hardware upgrade and repairs \$45

Tom Coleman

6.30 pm–9.30 pm, Fri 20 Jun.

6.30 pm–9.30 pm, Tue 29 Jul.

This course shows beginners how to upgrade their PCs, replace components. Troubleshooting hints are also given.

Prerequisites: None. No electronic or mechanical experience required.

How to buy a computer \$10/\$60

Members: \$10. Non-members \$60 (includes first year's subscription.)

6.30 pm–9.30 pm, Wed 28 May.

10.30 am–1.30 pm, Sat 28 Jun.

What a computer does, what the jargon means, buying advice, tips, no sales talk!

Prerequisites: None.

Introduction to networks \$90

Len Krois

6.30 pm–9.30 pm, Wed 11, 18 Jun.

This shows you how to connect two or more computers so that you can share computer resources.

Prerequisites: You must be familiar with Windows 3.x or Win 95.

Introduction to UNIX \$45

Len Krois

6.30 pm–9.30 pm, Wed 30 Jul.

UNIX/LINUX basics for people that want

a basic feel for the open systems environment.

LINUX is a popular shareware version of UNIX that runs on IBM compatible PCs. The session includes: logging onto a UNIX system, finding your way around, manipulating files, viewing and editing text files, using the on-line text manual.

Prerequisites: Command line computing knowledge preferred

Overview of Windows 95 \$45

Barry Fredrickson

9.00 am–12 noon, Sun 29 Jun.

9.00 am–12 noon, Sun 20 Jul.

Take control of your computer with this hands-on guided discovery of Win 95-based computing. Covers terminology, directory structure, file types. Knowledge of these topics is prerequisite for other courses.

Prerequisites: No prior computing experience required.

Starting Windows 95 \$139.50

Len Krois

9.00 am–5.30 pm, Sat 14 Jun.

Introduces the Win 95 environment to the computer novice. You'll learn basic Windows jargon and terminology, how to accomplish everyday tasks and all of the skills you'll need to work in Win 95. Students receive a comprehensive exercise manual.

Prerequisites: None. However, you have an advantage if you have had some exposure to computers and have used a mouse.

The Basics of Programming: \$135

Gerard Schlosmacher

6.30 pm–9.30 pm, Tue 1, 8, 15 Jul

Provides students with an insight to what programming is all about, the concepts of programming and computer languages. Students will also review a Visual Basic program in detail and test it. This is a prerequisite for "Visual Basic for Starters."

Prerequisites: Familiarity with Windows, preferably Windows 95, including mouse and keyboard skills. A basic general knowledge of computers.

Upgrade to Windows 95 \$139.50

Len Krois

9.00 am–5.30 pm, Sat 19 Jul.

This course is for Windows v3.1/ v3.11 users moving to Win 95. A thorough overview of all of the new features you are getting with Win 95 so you can quickly convert your Windows 3.1 skills to the new Win 95 arena.

Prerequisites: You should be familiar with Windows v3.1 to the level of the Starting Windows v3.1 course.

Beginners' HTML/Web page authoring \$90

Steven Goldate

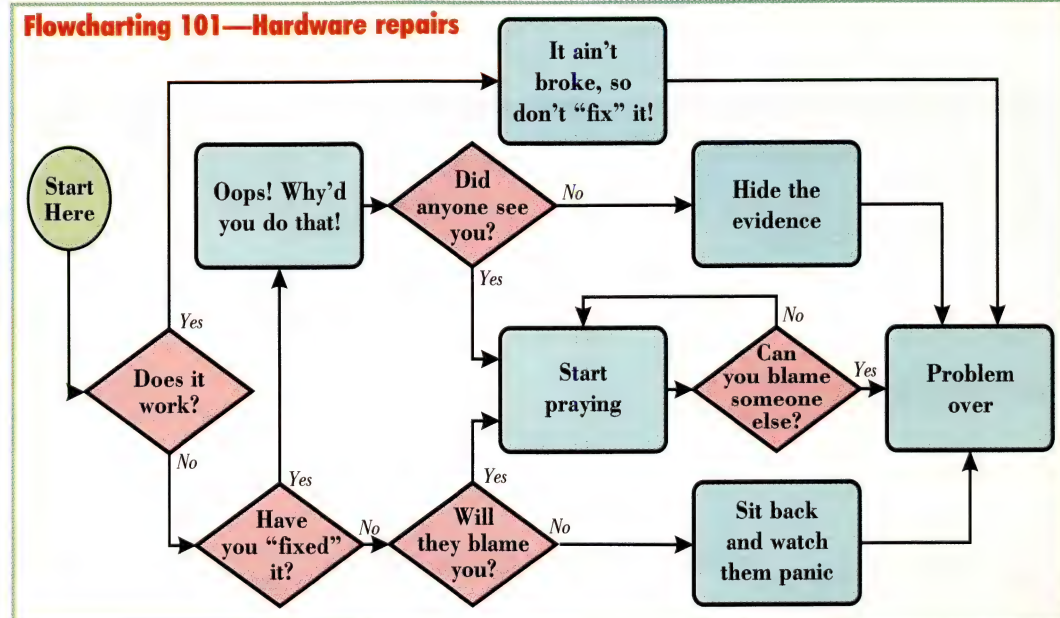
6.30 pm–9.30 pm, Thu 5, 12 Jun.

6.30 pm–9.30 pm, Thu 17, 24 Jul.

The course covers the principles of HTML (HyperText Markup Language) for writing Web pages for the Internet. Participants learn to write HTML using a text based and a WYSIWYG editor. Covers design aspects, "Do"s and "Don't"s, image file formats, uploading files to a server, getting noticed, and more.

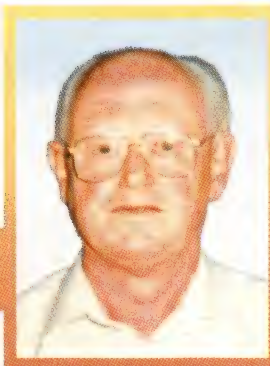
Prerequisites: Basic Windows experience assumed. Experience using a text editor preferred.

Flowcharting 101—Hardware repairs



Starfish Sidekick 97

SOFTWARE REVIEW



Bob Burt

Info Box

Starfish Sidekick 97

Minimum system requirements

- IBM PC 486 or 100% compatible
- Windows 95 or Windows NT 4.0
- 8 MB RAM (16 MB for NT)
- CD-ROM
- 256-colour VGA or SVGA monitor
- 12 MB free hard disk space
- 32-bit Web browser, to launch URLs
- Mouse or other pointing device
- Sound card and speakers, for alarms
- Modem, for Phone Dialler
- Internet e-mail system, for Internet scheduler
- MS Unimodem V compatible modem and Caller ID service, for Caller ID

Availability and cost

Distributed by Starfish Australia Pty Ltd
Unit 15, 8 Gladstone Road
Castle Hill NSW 2154

Ph: (02) 9899 5888,

Fax: (02) 9899 5728

Available at major software stockists,
including Myer, David Jones and
Harvey Norman.

RRP: \$89.95

For more information visit:

<http://www.starfishsoftware.com>

Since it is one of the most popular *Personal Information Managers* or PIMs, *Sidekick* will already be familiar to many. As it is now a while since *PC Update* outlined what is expected of a PIM, a quick run through may be helpful for new readers.

General features

A PIM uses a special workspace where you can call up and use its various resources for the management of information of personal interest, including methods of contacting individuals and companies, usually by telephone or letter. In the case of *Sidekick* (the previous "non-Internet" version), the main components, reached by changing the "view" from its *Deskpad*, are

- *Calendar*, where you can create events (appointments), organise your daily tasks in a *To Do* list, set reminders and keep track of telephone calls. The calendar can be displayed and used via a daily, weekly, monthly or annual format.
- *Cardfile*, where you store names, addresses, phone numbers and other relevant information in a personal address book. The data stored can, of course, be of any category, so you can create records for your wildflower collection, or whatever special hobby you may enjoy. Cardfile enables you to call up the *Phone Dialler*, where you

can generate a call or check on information relating to incoming calls.

- *EarthTime*, which displays a world map and provides the current time in eight locations, together with time differences, start and finish of daylight saving time and a resource pool of special information on over 540 cities.
- *Write*, where you can create, format and print letters and other documents and store the files in folders and binders. You can also create form documents to merge names from a cardfile. *Write* is equipped with an auto-speller, where unrecognised words are "lined out" and alternative spellings are offered in response to a right-hand click of the mouse.
- *Expense*, where you can enter information from receipts. A range of *Expense Reports* can be created, marshalled by date range, by week or by folder.
- *Activities*, where you can present information about all your group scheduling events, the *To Do* items and individual appointments. It is here that you would invite participants to an event you schedule and collect their replies.

Each view has its own Toolbar (although there are some common features) and, in Microsoft Office style, pointing to a button with the mouse provides a *ToolTip* for easier identification. Switching views is most easily accomplished by clicking on

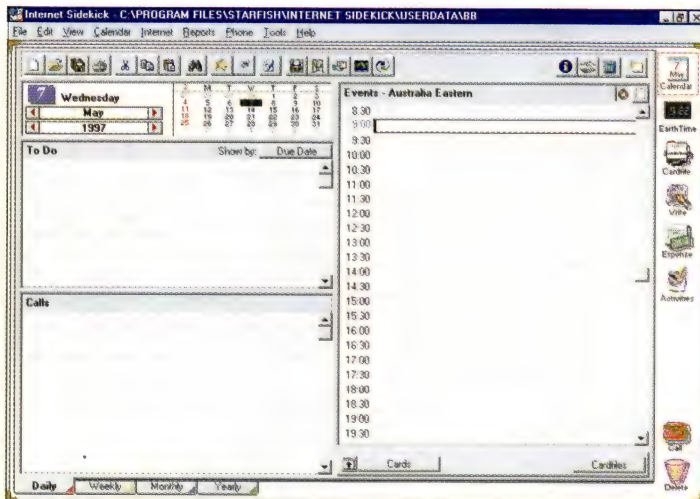


Figure 1. The Calendar view.

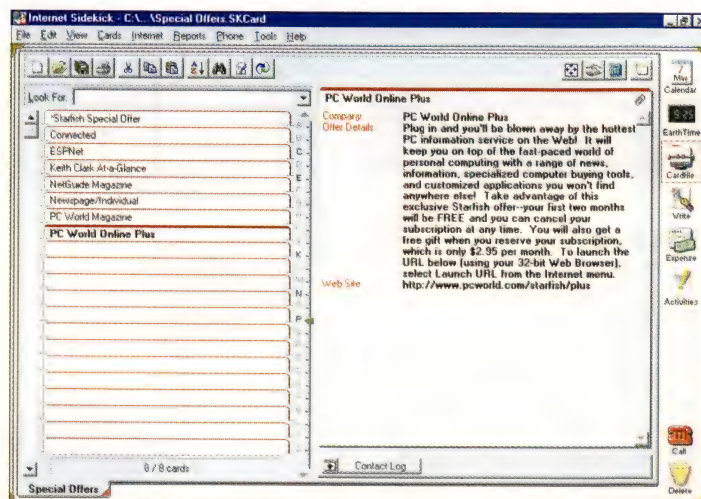


Figure 2. The Cardfile view.

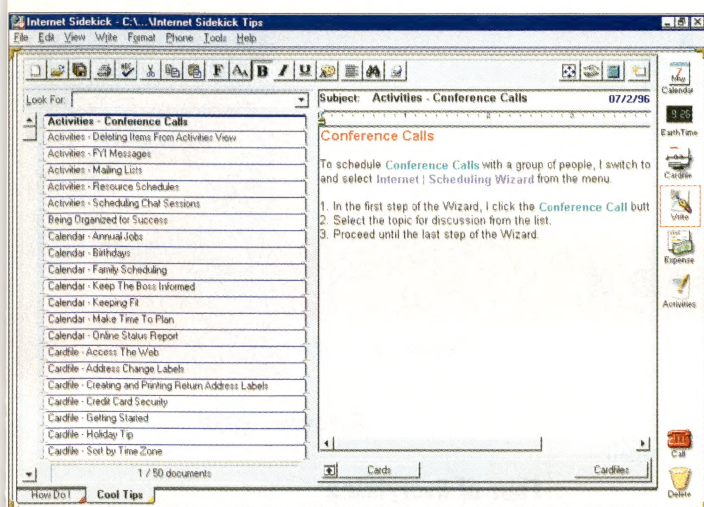


Figure 3. The Write view, displaying Sidekick tips.

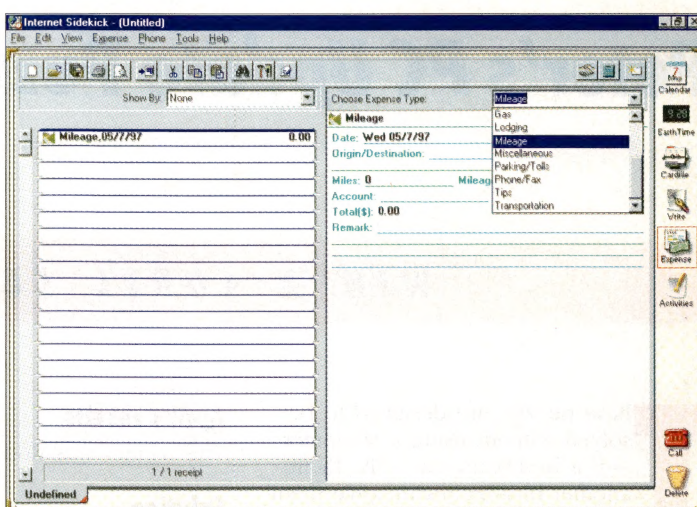


Figure 4. The Expense view.

its icon in the right hand vertical column.

A calculator and conversions table are also available.

With Sidekick you can print from the Calendar, Cardfile, Write or Expense views, using either pre-printed forms or custom styles you create. You can also print data from the Cardfile as cards, labels, envelopes or address books.

Although it is not necessarily a requirement for a PIM, Sidekick also comes with a Backup and Restore facility. In addition to transferring data to floppies as backup material you can, for example, copy files to a laptop computer, enabling you to continue working from home or to attend a conference suitably equipped.

Finally, you can set a password to protect your personal information.

The Internet features

You can schedule appointments with anyone who has an Internet e-mail account. The e-mail address book supports Netscape Navigator and Microsoft Exchange. If you use Eudora, you must have the Eudora Pro (32-bit) version. You can automatically send event invitations to all on your list

and collect replies in due course. Clearly, to use these facilities you must have a modem and Internet access. So equipped, you can launch your Web browser and move directly to the address of any World Wide Web site stored in the cardfile.

The *Photo Dialler* has some advanced features, but to use these you must have specific hardware, software and phone service. Broadly, you need a modem which supports the Microsoft Unimodem V driver, install the driver, use the Windows 95 TAPI option (Telephony Application Programming Interface) and obtain a Caller ID service from the telephone company. This is probably a tall order for our local resources and most personal computers. In any event, I was not so equipped for this review, so these features were not explored. TAPI is necessary only if you travel (using your portable computer) or if you send your card file to someone in another time zone.

An *Internet Time Synchroniser* is available as a special tool to select a time server and specify a schedule for synchronising.

The package

Starfish Sidekick 97 is provided on a CD-ROM and is installed under Windows 95. A substantial and well presented User's Guide of over 200 pages is included. An electronic version is also available from the CD-ROM, together with a copy of the Adobe Acrobat Reader, if you need it.

On the first occasion after installation, the Setup Wizard detects and uses your current mail settings, while you enter other information relating to your location and computer system.

Conclusion

Starfish Sidekick 97 is well designed, providing easy access to all its components. If you already feel comfortable using a computer running Windows 95, you would feel at home with this program very quickly and would have little difficulty learning how to use it to advantage. Resource and Scheduling Wizards are provided to guide you through the more complex actions.

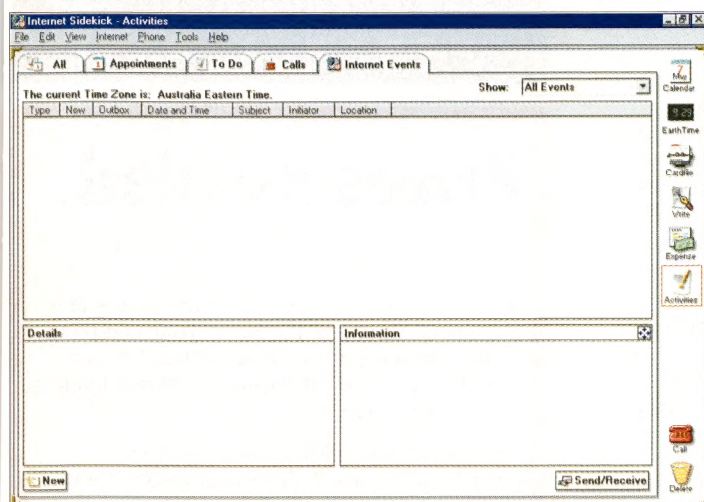


Figure 5. The Activities view.

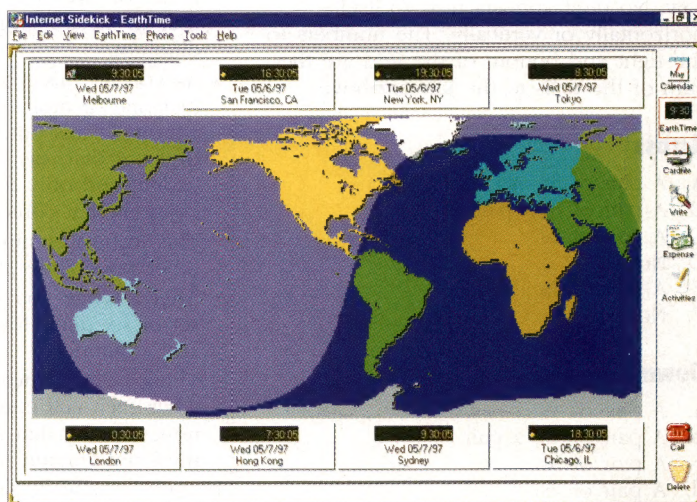


Figure 6. The EarthTime view.

Peter's PC Update Puzzle

WIN A COREL CD-ROM

Peter Smith



These puzzles are designed to be solved without using a computer—if a bird-brain can write them, another bird-brain can solve them! Solve the puzzle (you may use plain paper or a photocopy—you do not need to mutilate your *PC Update*) and send your entry to

Peter's PC Update Puzzle
June
PO Box 14
Ringwood VIC 3134

to arrive by Monday 30 June.

We'll publish the solutions and the winner in the August *PC Update*.

No, entries cannot be accepted by fax or e-mail; good old-fashioned snail-mail gives everyone an equal opportunity and won't clog up my e-mail or fax! Also please don't send entries to the Melb PC office—they are busy enough.

Prize

This month the prize is a copy of the Corel All Movie Guide, which was reviewed by Bob Burt in the November 1995 issue of *PC Update*.

Four of Everything

Each of the digits 1 – 9 occurs four times in the central part of the grid. The clues mention every time that a digit appears more than once in a column or row. No digit appears next to itself, horizontally or vertically. The numbers to the right and bottom of the grid are the sum of the cells to the left or above.

Across

- A. A pair of 3s, no 9s.
- B. A pair of 8, a pair of 9s.
- C. A pair of 2s.
- D. No 7s.
- E. A pair of 7s.
- F. No 6s.

Down

- a. A pair of 4s.
- b. A pair of 1s, a pair of 7s.
- c. A pair of 5s.
- d. A pair of 7s.
- e. A pair of 2s.
- f. No 8s.

April's results

The winner was Rod McDougall.

Solution

	a	b	c	d	e	f	
A	3	5	3	8	1	4	24
B	5	8	6	9	2	3	33
C	2	6	2	1	3	1	15
D	7	2	9	7	9	4	33
E	5	4	8	6	4	8	35
F	1	9	5	7	6	7	35
	23	34	33	38	25	27	

Tips

I've been asked to describe how to solve these puzzles. I could lay it all out step-by-step but that would ruin the challenge, so instead here a few clues. It needs care and thought—with practice these can be done in 15 to 20 minutes, but the first few usually take a lot longer!

- First, work out what goes in the two empty yellow squares.
 - Then, for each row and column, work out what must be present, what can't be present and what could be present, remembering that all the missing numbers are different.
 - As you do this, you might find that one or more rows or columns "falls out." You could discover that, say, there are four 9s left, and only four rows or columns that could use 9s.
 - This in turn eliminates some other possibilities, and so on.
 - After a while you will have a set of six digits for each row and column.
 - Then it is a matter of looking at what each cell could contain, remembering that adjacent cells must not contain the same digit.
- Be very careful in all the steps, as one incorrect assumption will rebound all the way!

Answer grid

Four of Everything

	a	b	c	d	e	f	
A							32
B							
C							30
D							36
E							28
F							24
	33	25	36	37		27	



Prizes needed

We are coming to the end of the prizes that have been donated. If you or your company could donate one or more prizes, for our puzzle fans, we'd be happy to acknowledge you on this page.

Please contact either Stan Johnstone or Peter Smith (contact details on pages 2 and 3 of this magazine.)

Membership

Do you have problems thinking of gifts for family, friends or colleagues?

The next time you're stuck, why not give them memberships in Melb PC?

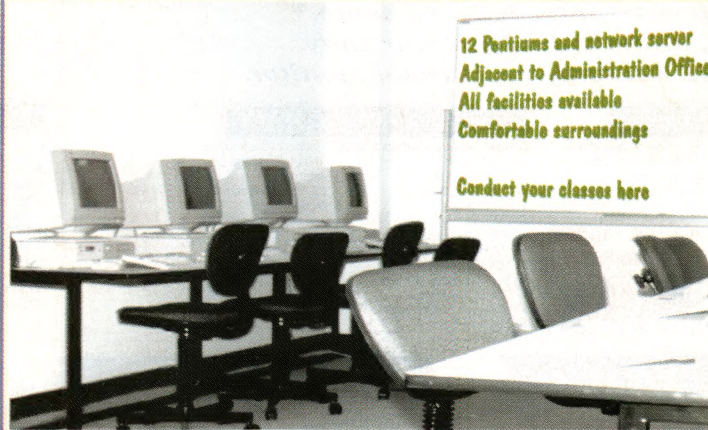
PC Update, BBS, SIGs, Training, Internet, Dial Help, Monthly Meetings, Shareware, First Aid... all this and growing.

Anyone who uses a PC will benefit from membership of Melb PC.



Need a Training Venue?

The Melbourne PC User Group Training Centre is available for rental, on a casual or regular basis.



12 Pentiums and network server
Adjacent to Administration Office
All facilities available
Comfortable surroundings

Conduct your classes here



For further information contact:

Melbourne
PC User Group
Administration Office
2nd Floor
66 Albert Road
South Melbourne
VIC 3205
Ph: (03) 9699 6222
Fax: (03) 9699 6499

PC Update advertisers index

Bayside PC Services	27
Bayside Solutions	51
CD Design	51
Compscan	45
Computer Rebuilds	53
Cybec	12
Dell	5
EPS Electric Parts Supplies	39
Intronics	23
JC ComputerNetworks	17
JED Microprocessors	29
Modem Superstore	19
National Communications	24
Netsys	20
Northern Metropolitan Institute of TAFE	18
OfficeNet	12
Pollock Computer & Technical Services	23
Solutions by Design	25
Swap Meets— Malvern, Collingwood, Box Hill, Camberwell, Springvale	45
TECS	OBC
Techni-Corp Systems	7
Ultimate Computing Technology	21
Utopia Systems	15

Acknowledgments

Melbourne PC User Group gratefully acknowledges the support provided by the following organisations:

American Power Conversion for the supply of six uninterruptible power supplies for the Group's Communications Centre.

ACA Pacific for the donation of a Diamond Stealth Video card for *PC Update* production.

Computer Rebuilds for the supply of equipment for *PC Update* production and the group's communications centre.

Corel Corporation for copies of CorelDRAW and Corel VENTURA used in the production of *PC Update*.

Dell Computer for a Dell PowerLine 466SE PC to support the Internet service.

Hayes for the supply of modems for the group's Communications Centre.

Hewlett-Packard for a LaserJet 4M printer for administration and a Vectra PC, ScanJet scanner and LaserJet 5Si MX used in the production of *PC Update*.

Michaels Camera & Video for a Kodak DC20 Digital Camera.

Microsoft for ongoing contributions.

SEALCORP Computer Products for the supply of equipment for the group's Communications Centre.

SONY Australia for the supply of equipment for *PC Update* production.

SEALCORP Computer Products for the supply of equipment for the group's Communications Centre.

Symantec for ongoing contributions. □

Monthly meeting
All members and guests
welcome

Pharmacy College
381 Royal Parade
Parkville

6.00 pm
First Wednesday
each month except
January

An average of over 500 members and guests attend our monthly meetings, which provide an excellent forum to introduce and release new products to those who are both users and decision makers. Meetings are arranged around planned themes. Members or presenters who are able to assist or contribute are invited to contact the convener.

Stan Johnstone Meetings convener
and administrator
Phone: (03) 9578 3091 BH
e-mail stanj@melbpc.org.au

4 June Information Management
Symantec

the contact manavger ACT!

Claris Works

*will speak on an integrated
product based on their
popular database*

Plus:

- The usual giveaways
- Random Access
- Shareware Library Sales
- Socialising
- Don't forget the Waffle SIG after the meeting.

Choosing a computer from TECS is as easy as 1,2,3!!!

1 year on-site warranty, delivery, setup.*
2 year parts, unlimited labour warranty.
3 year on-site warranty on Hundai monitor.

* - Limited to Melbourne metro areas only. Conditions apply.

Not exactly what you looking for?
 We can custom build systems to your specifications! **Call for a quote.**



Picture for illustration purpose only. Actual units will vary.

Number 1: Ventura

- IBM 6x86 P200+ CPU
- 256K cache
- 16M EDO RAM
- 1.6G EIDE HDD
- 1.44M FDD
- 2M ET6000 PCI video card
- 15" Goldstar NI LR monitor
- 16X CD-ROM drive
- 16-bit sound card
- Pair of speakers
- Microsoft mouse & pad
- 104 keyboard

16M RAM 1.6G HDD
16X CD-ROM DRIVE

\$1995

Number 2: Nexus MMX

- Intel Pentium-166MMX CPU
- 512K cache
- 32M EDO RAM
- 2.1G EIDE HDD
- 1.44M FDD
- 2M Diamond Stealth 3D PCI video card
- 15" Hyundai NI LR monitor
- 16X CD-ROM drive
- Sound Blaster 16PnP
- Pair of speakers
- Microsoft mouse & pad
- 104 keyboard

Intel MMX CPU
32M RAM
2.1G HDD
16X CD-ROM DRIVE
Fax/modem

\$2950

Number 3: Titan MMX

- Intel Pentium-166MMX CPU
- 32M EDO RAM
- 3.2G EIDE HDD
- 1.44M FDD
- 2M Matrox Mystique PCI video card
- 15" Hyundai NI LR monitor
- 16X CD-ROM drive
- Sound Blaster 32PnP
- Pair of speakers
- Microsoft mouse & pad
- Honeywell 104 keyboard

Intel MMX CPU
32M RAM
3.2G HDD
16X CD-ROM DRIVE
Fax/modem
Colour printer

\$3750

Vicemaster Notebooks

75MHz \$2885
133MHz \$3075

Model 3510

Features:

- Genuine Intel Pentium CPU
- 10.4" TFT active colour screen
- 8M RAM
- 1.1G HDD
- 1.44M FDD
- 86 key keyboard
- 1M PCI graphics card
- Integrated 16-bit sound module
- Built-in MIC & stereo speakers
- Slide-pad pointing device
- NIMH battery

Options:

- Upgrade to 1.3Gb HDD \$100
- Upgrade to 16Mb \$149
- Internal 6X CD-ROM \$309
- Windows 95 \$140

2 year* return to base warranty!!

* - 1 year on screen, battery, & accessories

PentiumPro System

Specifications:

- Genuine Intel PentiumPro 200MHz CPU
- 32M of fast EDO RAM
- 2.1G mode 4 enhanced IDE HDD
- 1.44M FDD
- 15" Goldstar 56i monitor
- 2M Hercules Dynamite 128
- 12X CD-ROM / SB16PnP / speakers
- MS mouse and pad
- Honeywell 104 keyboard
- ATX mini-tower case
- Microsoft NT4.0 Workstation

2 year parts and unlimited labour warranty!
1 year on-site warranty, FREE delivery and setup!*

* - Limited to Melbourne metropolitan areas only. Conditions apply.

\$3595

Budget Pentium Systems

120MHz \$1425
150MHz \$1535
166MHz \$1750

Specifications:

- Genuine Intel Pentium CPU
- 16M of fast EDO RAM / 256K cache
- 1.6G mode 4 enhanced IDE HDD
- 1.44M HDD
- 14" non-interlaced monitor
- 1M Trident 9680 PCI video card
- MS mouse & pad
- 104 keyboard
- choice of desk-top or mini-tower case
- Windows 95

2 year parts and unlimited labour warranty!

SIM modules

- 1M 30pin \$15
- 4M 30pin \$55
- 4M 72pin \$45
- 4M 72pin EDO \$39
- 8M 72pin \$73
- 8M 72pin EDO \$65
- 16M 72pin \$145
- 16M 72pin EDO \$135
- 32M 72pin EDO \$259

Modems

- KTX 33.6K ext. \$149
- Dynalink 33.6K int. \$139
- Dynalink 33.6K ext. \$159
- Commwave 33.6K int. \$119
- Banksia 33.6K int. \$209
- Banksia 33.6K ext. \$249
- Netcomm 33.6K int. \$179
- Netcomm 33.6K ext. \$249

Hyundai monitors

- Conforms to MPR II low radiation specification.
- DeluxScan 14 Plus \$395
- DeluxScan 15 Pro \$485
- DeluxScan 17 \$945
- DeluxScan 21 \$2395



Iomega ZIP drives

Zip, the easiest way to backup your stuff.



\$249

- Zip Accessories:
- Zip Disks \$22
- Zip Disk Organizer \$17
- Zip Carry Case \$39
- Zip Zoom SCSI Card \$89



AMD 5186 P133 CPU

Including fan & heatsink!

\$279

Canon Colour Printers

- BJC-210 Economical bubble jet printer \$269
- BJC-4200 Professional bubble jet printer \$359

Colour flatbed scanner

Specifications:

- A4 size
- Up to 24-bit true colour scanning
- Scan from 75 to 4800DPI!
- fast single pass scanning
- SCSI interface Included*
- TWAIN compatible

*also available with Parallel Port interface. Ideal for notebooks!



\$339

CD-ROM drives

10X \$149 12X \$169 16X \$189

High performance graphics cards

- Matrox Mystique 2M SGRAM \$279
- Matrox Millenium 2M VRAM \$339
- Diamond Stealth 3D 2M EDO \$169
- Diamond Stealth Edge 3D 2M VRAM \$469
- Hercules Terminator 3D 2M EDO \$269
- Hercules Dynamite 128 2M MDRAM \$269

Complete computer system

Multimedia *Internet ready* *Printer*

Ideal for first time buyers!

- Genuine Intel Pentium-133MHz CPU
- 512K pipeline cache
- 16M EDO RAM
- 1.6G mode 4 HDD
- 1.44M FDD
- 2M Tseng ET6000+ PCI video card
- 15" KTX monitor
- 12X speed CD-ROM drive
- Taskmaster Pro full duplex sound with 33.6K fax/modem
- Pair of speakers
- Microsoft mouse & pad
- 104 keyboard
- choice of desk-top or mini-tower case
- Windows 95
- Microsoft CD bundle
- Canon BJC-210 colour printer

\$2489



The Electronic & Computer Stores

Enquiries Hotline: 131198

Internet web address:
www.tecs.com.au

City: 305 Latrobe St.

Coburg: 311 Sydney Rd.

Clayton: Cnr. Blackburn & Wellington Rds.

Blackburn: 88 South Pde.

Ph:(03)9602-3499 Fax:(03)9642-8551

Ph:(03)9383-7511 Fax:(03)9383-7896

Ph:(03)9562-9501 Fax:(03)9562-9261

Ph:(03)9877-7071 Fax:(03)9877-7081

Prices and specifications subject to change without notice. E & OE.